H. W. CALDWELL & SON CO

CATALOG No. 45

L. A. Watson

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H. W. Caldwell & Son Co.

Established 1875

Frank C. Caldwell, - President
Oliver N. Caldwell, V. Pres.-Treas.
Frank B. Caldwell, Second V. Pres.
H. W. Caldwell, - Secretary

Main Office and Works
Western Ave., Seventeenth to Eighteenth Sts.
Chicago, Illinois - - U. S. A.

Eastern Sales and Engineering Office
New York City, New York - U. S. A.

Southern Sales and Engineering Office
Dallas, Texas - - - U. S. A.

General Catalog Number 45

Price lists in this Catalog supersede all previously issued and are subject to discount and change without notice

CALDWELL

Elevating, Conveying Power Transmitting & General Machinery

Sole Manufacturers of
Helicoid Conveyor

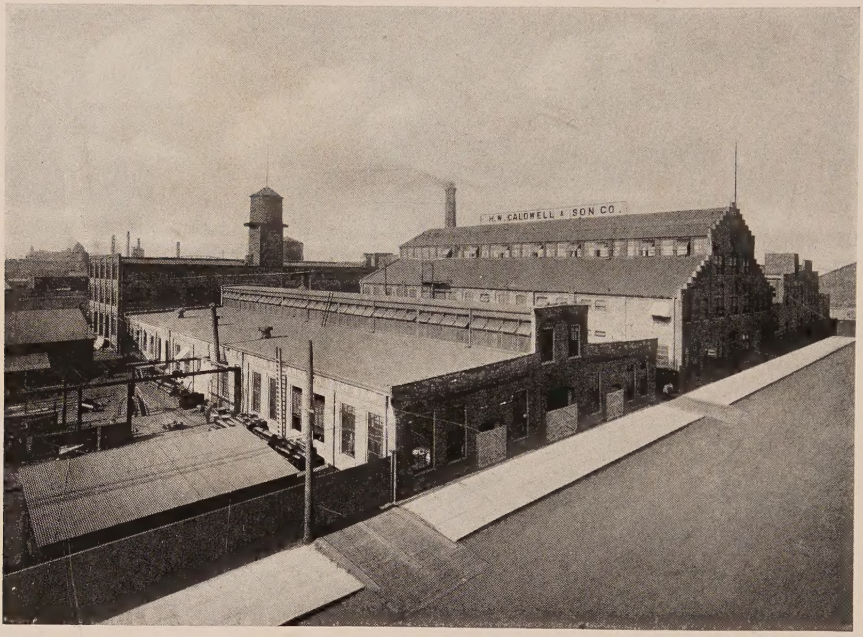
Machine Molded Gears, Friction Clutches, Screening Machinery

Specialties for Flour Mills, Grain Elevators, Cotton Seed Oil Mills, Alfalfa Plants, Starch Works, Linseed Oil Mills, Canneries, Food Products Plants, Sugar Refineries, Glucose Works, Cement Works, Phosphate Works, Lime Works, Gypsum Works, Chemical Works, Tanneries, Etc.

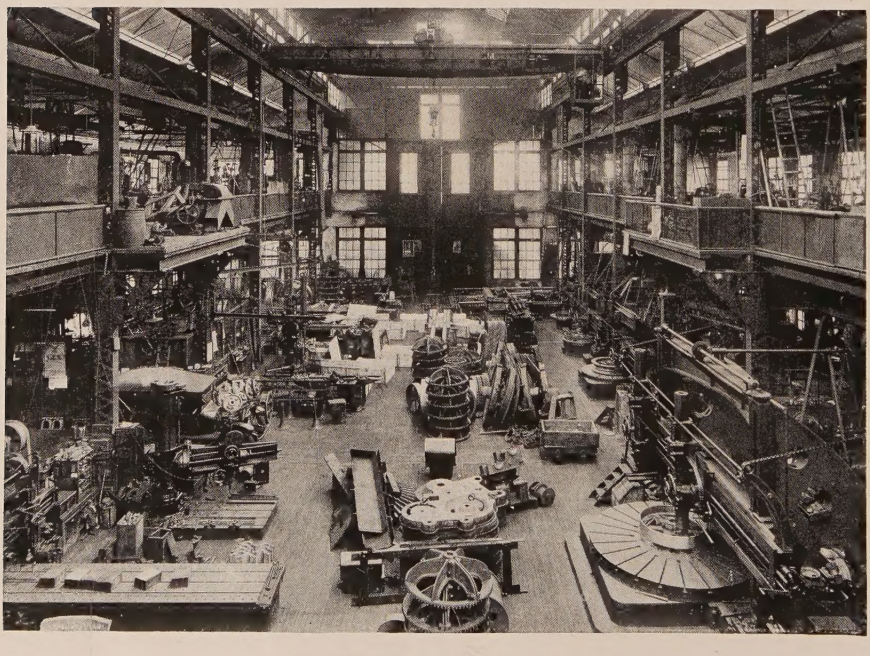
H.W. Caldwell & Son Co.

LINK-BELT COMPANY, OWNER

CHICAGO



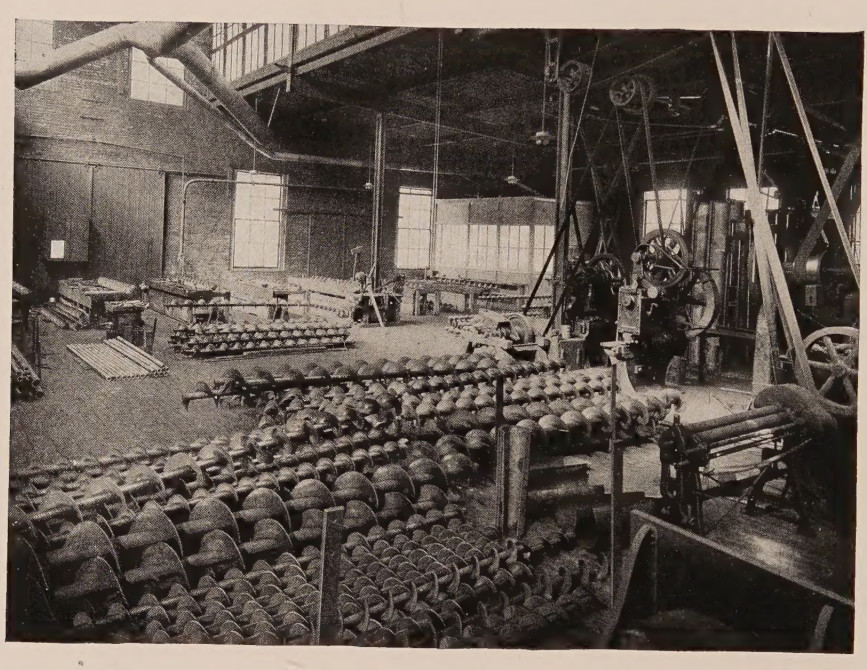
General View of Plant



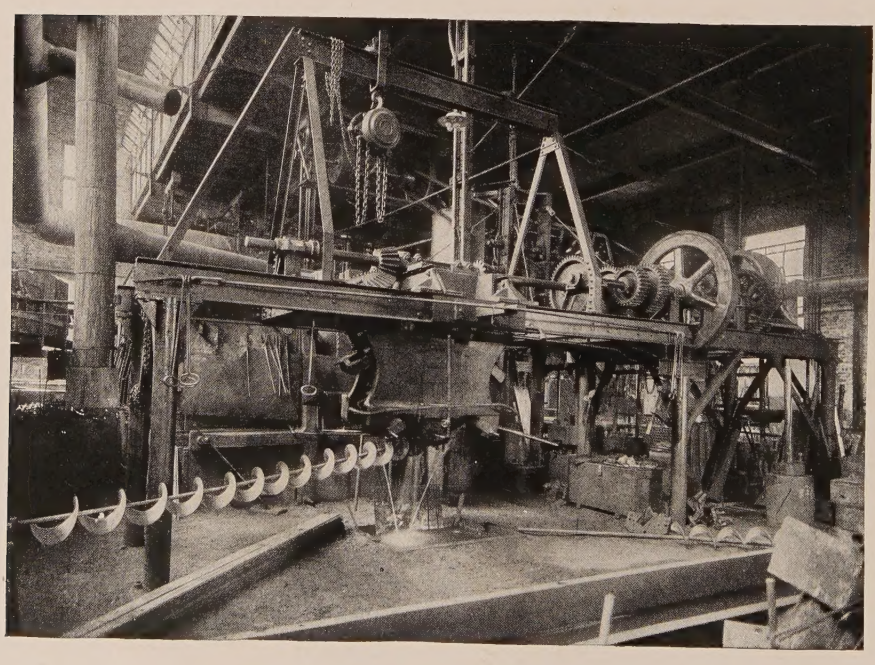
Interior View, Machine Shop

Main Bay of Foundry

Light Casting Department of Foundry



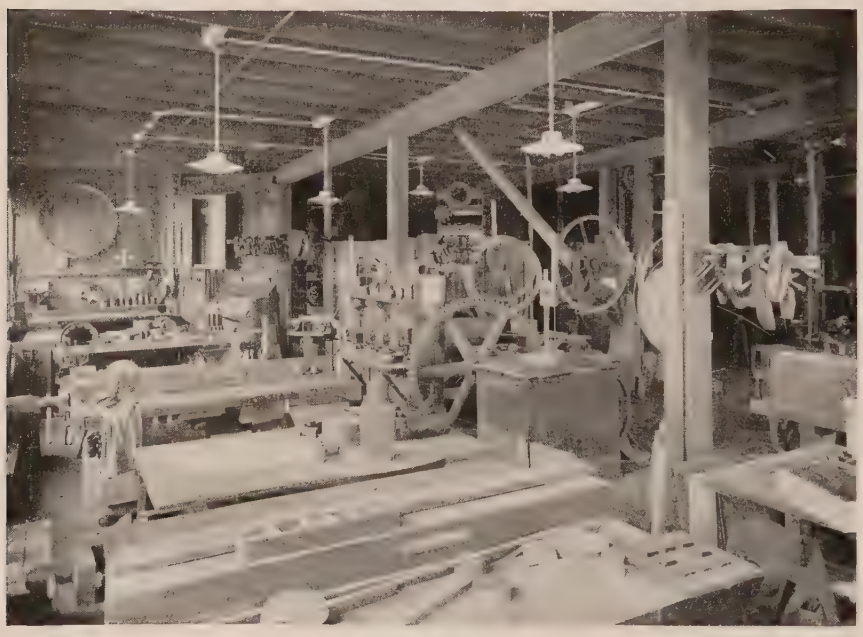
Conveyor Department



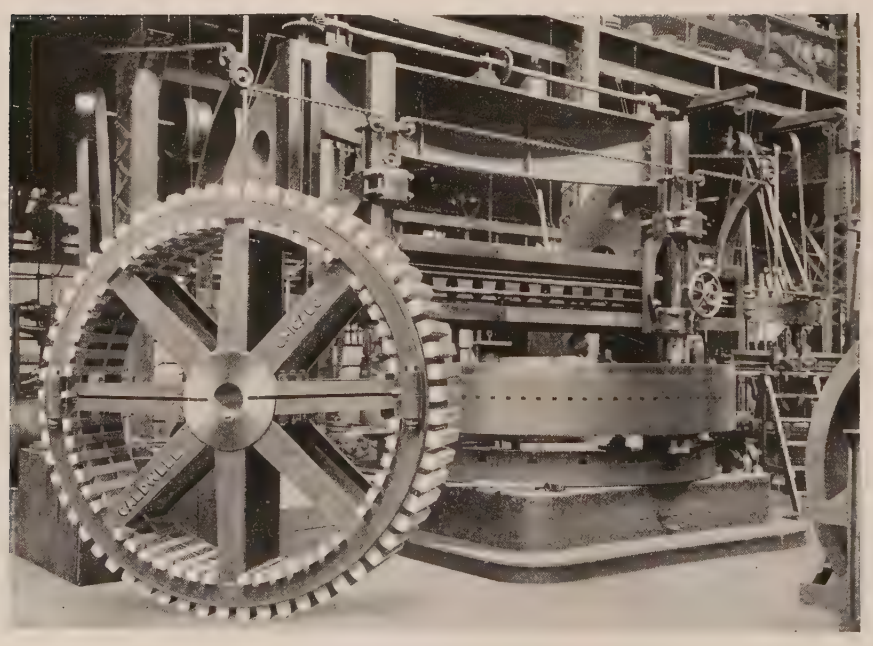
One of Our Helicoid Rolling Mills

Millwright Department

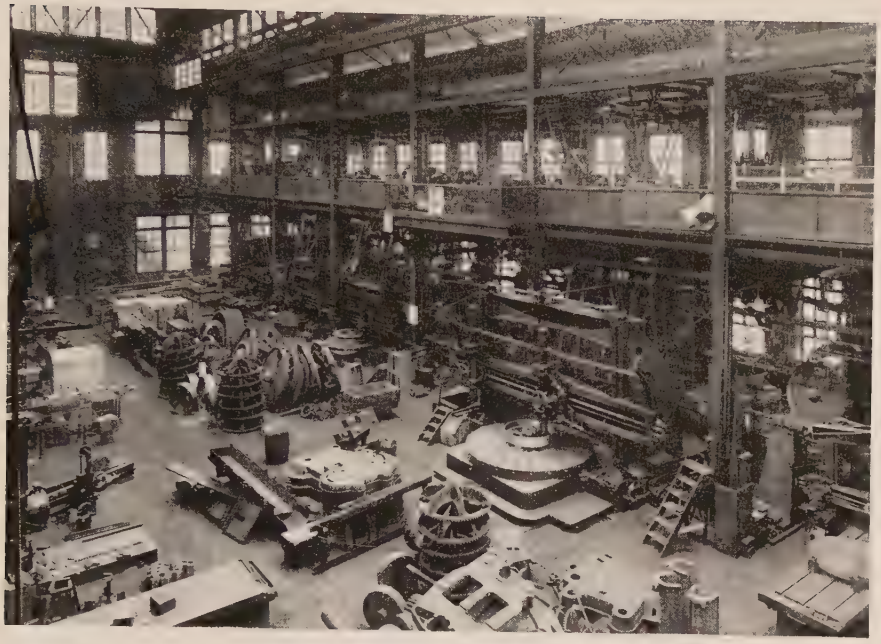
Some of Our Gear Cutting Machines



Pattern Shop



Large Boring Mill and Mortise Gear



Boring Mills, Machine Shop

Pulley Turning Department

THE LINE
THE PLANT
THE POLICY

This catalog will give some idea of the wide variety of machinery which we manufacture. Our plant covers an entire city block, is of modern construction and equipped with modern tools. It is on the Chicago Junction Railroad, enabling us to secure and forward cars by all railroad lines centering in Chicago. We are within a short distance of the main freight stations of all lines so that small rush orders can be shipped so as to secure the quickest possible handling.

Our policy has been, and will continue to be, to give close and continued attention to all orders, both large and small. The continued growth of our business is evidence of the satisfaction of our customers in our handling of their work.

The following summary of our manufacture may be useful to our customers:

CALDWELL CONVEYORS: We are the originators of the modern screw conveyor, for many years known as the Caldwell Conveyor, and are the sole manufacturers of Helicoid Conveyor, more fully described in the following pages. Our line of fittings such as hangers, box ends, steel conveyor boxes, etc., is complete in every detail.

BUCKET ELEVATORS: We manufacture bucket elevators complete with wood or steel casing for the handling of all classes of material. These are made either with chain or belt and with steel or malleable iron buckets of many different styles.

PACKAGE ELEVATORS: These consist of a continuous chain with carriers of various types, both heavy and light in construction. They are used for handling boxes, barrels, packages, sacks, etc.

SPOUTS AND GRAIN ELEVATOR FIXTURES: We manufacture a complete line of turn spouts, trolley spouts, flexible grain spouts, car loaders and car loader spouts, feed gates, power grain shovels, etc.

HOISTS AND CAR PULLERS: Our line of car pullers is complete, including both the ordinary belted type and types suitable for gearing to electric motors. We also make hoists both of the friction type and heavy hoists of various styles.

BELT CONVEYORS: Our line of belt conveyor appliances is very complete and includes all styles of concentrators both flat and troughing types, trippers, loading hoppers, etc. We can supply all styles of belting suitable for belt conveyor work.

PAN AND PLATFORM CONVEYORS: These conveyors are made in many styles, but consist generally of a single or double strand of chain, carrying pans, either cast iron or steel, or wood or steel slats.

DRAG CONVEYORS: These consist of flights, generally of steel or cast iron, mounted on a chain or cable. We manufacture all types.

POWER TRANSMISSION APPLIANCES: We have a very complete line of patterns for power transmission machinery. We have never attempted to make this machinery to sell at a low price, but have always designed it amply heavy for severe work. Our bearings will be found heavier, better finished and with a better grade of bearing metal, than the great majority of those now sold. Our pulleys and sheaves are properly designed, carefully finished and will stand up under severe service. Our line of friction clutches will be found to cover all requirements.

GEARS: We are specialists in the manufacture of both cast tooth and cut tooth gears. Our list of patterns of cast tooth gearing is probably the most complete in the country. By the process of machine moulding, we are also able to duplicate practically anything in the gear line at comparatively small pattern expense. Our gear cutting equipment for the manufacture of cut tooth gears is very complete. We make a specialty of worm gears, complete with housing.

SPECIAL MACHINERY: In addition to the articles listed in the catalog, a large portion of our work consists in the making of special machines for various industries. Our equipment is so complete that we can handle this work to the best advantage. We are always pleased to estimate from drawings of this class of machinery. We show, in the back of the catalog, a few of the types of machines we have made in the past. This will give an idea of the size of work which we can do.

In general, our line of conveying, elevating and power transmitting machinery will be found to cover all requirements. Our policy has always been to maintain the quality of our product and never to attempt to meet competition by cheapening the grade of our work.

Spiral or Screw Conveyor

Generally Known as Caldwell Conveyor

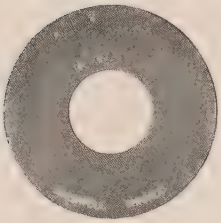


Fig. 45001

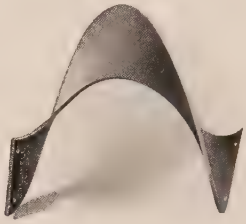


Fig. 45002

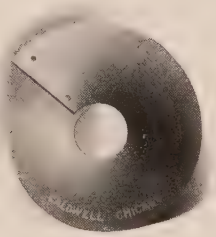


Fig. 45003

The Spiral or Screw Conveyor as an appliance for conveying material in bulk has been known to mechanics for a great many years. In 1874 when Mr. H. W. Caldwell commenced the manufacture of what became generally known as Caldwell Conveyor, spiral conveyors as then produced were crude in construction and unsatisfactory in operation.

Such conveyors were then made with cast iron flights on wooden shafts, cast iron flights on solid shafts, hammered tin and iron flights on wooden shafts, and the common form of flour mill conveyor with wooden pegs or paddles inserted spirally into an octagon or hexagon wooden shaft.

The Caldwell Conveyor Flight (see Figures 45001, 45002 and 45003), which was invented by Mr. H. W. Caldwell, was formed from a disc of metal into a spiral extending more than one revolution of the shaft, and was a decided improvement in the manufacture of spiral conveyors.

The sections of flights were lapped and riveted to make a continuous screw. It is obvious that the rivet heads projecting on the wearing surface of the flights would be the first part of the conveyor to wear away, and when the rivets became loose there was nothing to prevent the conveyor flights from falling apart.

Caldwell Helicoid Conveyor

The Perfect Spiral or Screw Conveyor

HELICOID—A warped surface which may be generated by a straight line moving in such a manner that every point of it shall have a uniform motion in the direction of a fixed straight line, and at the same time a uniform angular motion about it.

—Webster's Dictionary.

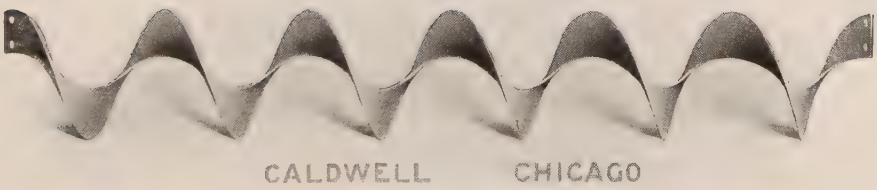


Fig. 45004

The Caldwell Helicoid or Continuous Flight is rolled from a single strip of metal and the flight given its permanent form by the rolling process, so that the Helicoid Flight even before the pipe is inserted is very strong and resists to the full strength of the metal the lateral pressure due to pushing forward the material.

Comparison Between Helicoid and Sectional Flight Conveyor

While we furnish both Helicoid Conveyor and conveyor of the old style Sectional Flight type, we always recommend Helicoid Conveyor. The comparison of details of the two types of conveyor made below will show the great superiority of the Helicoid Conveyor.

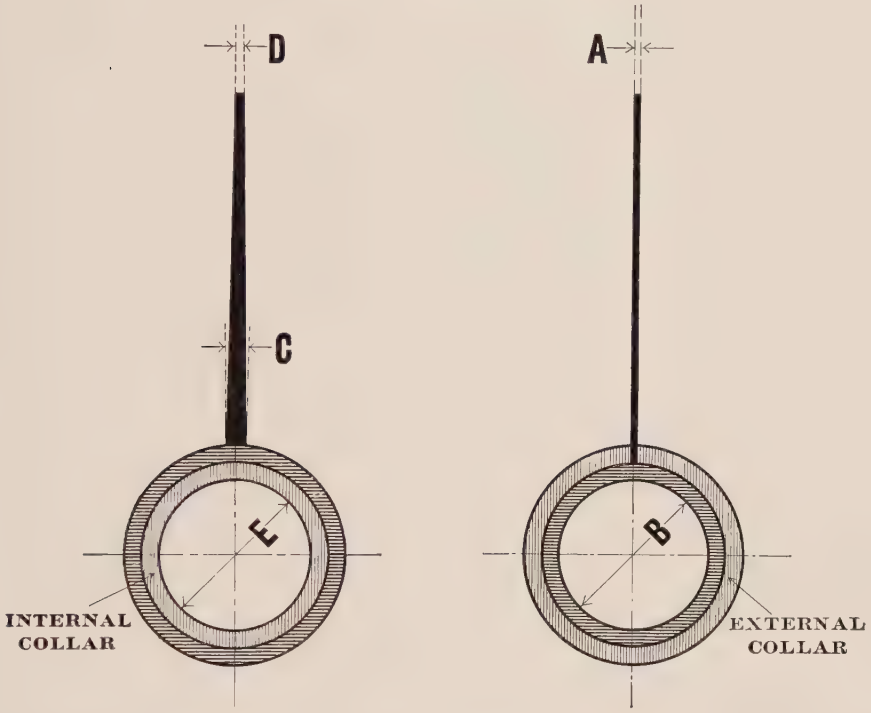
With the Helicoid Conveyor we preserve the same standards of coupling sizes and bearing sizes which were used for the Sectional Flight Conveyor. The Helicoid Conveyor is therefore interchangeable with the corresponding Sectional Flight Conveyor, but for the same weight of conveyor the pipe is very much stronger, due to the use of the internal collar. We call particular attention to the diagrams on page 13 showing cross sections of the two types of conveyors. It will be noted that the outer edge of the Helicoid is as thick as the entire flight of the corresponding Sectional Flight Conveyor. As the Helicoid Conveyor has a tapering cross section, the average thickness of the flights is approximately fifty percent more than the corresponding Sectional Flight.

Due to the continuous flight, repairs are not required as often as with the Sectional Flight type. If, however, repairs become necessary, sections of flight of any length can be supplied and are easily slid over the pipe from the end, due to the use of the internal collar, and riveted to the portion of the old flight which is not yet worn out.

Comparison in Details of Helicoid and Sectional Flight Conveyor

HELICOID	SECTIONAL FLIGHT
Flight continuous without laps or rivets.	Flights lapped and riveted with numerous rivets exposed to wear.
Flight a true spiral—result of rolling process.	Flights irregular spiral due to riveted offset joints.
Can run high speed with increased capacity because perfect spiral.	High speed whips and throws over material.
Outer edge true cylinder—result of rolling process.	Outer edge irregular.
Flight cross section tapering giving greatest strength next pipe to resist lateral pressure.	Flights same thickness throughout without extra strength where most needed.
Outer edge same thickness as corresponding sectional flight but average thickness greater.	Flight same thickness throughout and no more than outer edge of corresponding Helicoid.
Rotates in perfect balance.	Necessarily out of balance account of numerous laps and rivets.
Frequent repairs not necessary but easily made if required.	Wearing away of rivet heads causes flight to strip and frequent repairs needed.
Larger pipe used, but with internal bushings same standards of couplings preserved.	Pipe smaller and not as well adapted to heavy service or long lines of conveyor.

Comparison between Helicoid Conveyor and Corresponding Sectional Flight Conveyor



Helicoid Conveyor — Sectional Flight Conveyor

HELICOID CONVEYOR					CORRESPONDING SECTIONAL FLIGHT CONVEYOR			
Size Inches	Thickness of Flight, Inches C	Thickness of Flight, Inches D	Inside Diameter of Pipe, Inches	Diameter of Cplg., E, Inches	Size Inches	Thickness of Flight A, Inches	Inside Diameter of Pipe, Inches	Diameter of Cplg. B, Inches
4 Std.	.125	.05	1¼	1	4 Std.	.05	1	1
4 X	.1875	.11	1¼	1	4x⅛	.125	1	1
6 Std.	.125	.063	1¾	1½	6 Std.	.06	1½	1½
6 X	.25	.125	1¾	1½	6x⅛	.125	1½	1½
6 XX	.375	.20	1¾	1½	6x3/16	.1875	1½	1½
7 Std.	.125	.07	1¾	1½	7 Std.	.06	1½	1½
7 X	.25	.141	1½	1 3/16				
8 Std.	.1875	.11	2	1½	8 Std.	.078	1½	1½
9 Std.	.1875	.10	2	1½	9 Std.	.078	1½	1½
9 X	.375	.172	2	1½	9x1/16	.1875	1½	1½
9 XX	.375	.19	2½	2	9x3/16	.1875	2	2
10 Std.	.1875	.093	2	1½	10 Std.	.078	1½	1½
10 XX	.375	.19	2½	2	10x3/16	.1875	2	2
12 Std.	.25	.12	2½	2	12 Std.	.078	2	2
12 X	.375	.17	2½	2	12x3/16	.1875	2	2
12 XX	.375	.18	3	2 7/16	12x3/16	.1875	3	3
12 XXX	.50	.25	3½	3	12x¼	.25	3	3
14 Std.	.25	.12	3	2 7/16	14 Std.	.109	2	2
14 XX	.44	.24	3½	3	14x¼	.25	3	3
16 Std.	.31	.17	3½	3	16 Std.	.125	3	3
16 XXX	.50	.25	4	3	16x¼	.25	3	3

Suggestions for the Erection of Caldwell Conveyor

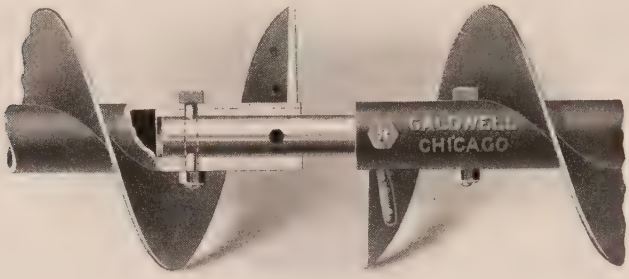


Fig. 45005. (*Ladkins*)

Set the flights at the hangers properly, as shown in Fig. 45005. The purpose of this arrangement is to permit the end flight on one side of the hanger to deliver material to the receiving flight on the other side of the hanger, without crowding the material between the end flights at the hanger gap.

Changing a screw conveyor end for end does not change the screw from one hand to the other—for example, from right hand to left hand—but it does change the side of the flight which works against the material.

Reversing the direction of motion of a conveyor changes the direction of travel of the material.

The lugs or fastenings should always be on the side of the flights away from the material. This reduces friction and prevents sticky material from gathering at the lugs.

Material travels in a screw conveyor more on one side of the box than the other. In using miter gear bearing ends, be sure to use the proper hand of conveyor to take advantage of this.

Give preference to high speeds with grain and other easily handled materials.

Give preference to low speeds in handling sand, coal and other material of a similar nature. Refer to the Engineering Notes, pages 16 and 17.

Use Cast Iron Box Ends, or Countershaft Box Ends, at the drive end of the conveyor. A hanger alone at this point is not rigid enough. If the drive end is long, use a cast iron box end and also a pillow block or other outboard bearing.

We are always glad to give suggestions as to the type of conveyor, speeds, drives, etc., and to give estimates on complete conveyor outfits.

Caldwell Conveyor for Special Service

Forty years' personal experience with the manifold adaptations of the Caldwell Conveyor has made us familiar with the construction needed to meet the requirements peculiar to special service of every kind. We are often able to render valuable service to our customers by advice and instruction as to strength, form of flights, or kind of metal necessary for unusual demands upon the conveyor, and we will take pleasure in affording such aid when requested.

The extension of the uses for the Caldwell Conveyor has been our constant aim, and we always take interest in furthering that end.

The Caldwell Conveyor

Is Used to Carry

All kinds of Grain
Ashes,
Asphalt,
Baking Powder,
Bone Black,
Bone Dust,
Bran,
Cement,
Coal (anthracite),
Coal Screenings,
Chips (Sulphite Fiber),
Cinders,
Clay (from the bank),
Clay (pulverized),
Coke (crushed),
Concrete,
Cotton Seed,
Cotton Seed Products,
Crushed Ore,
Crushed Quartz,
Drugs,
Fertilizers (liquid and others),
Flour,
Gravel,
Guano,
Hominy,
Lard,
Manure,
Malt (wet and dry),
Meal,
Middlings,
Paper Pulp,
Peanuts,
Phosphates,
Rice,
Salt,
Sand,
Sawdust,
Screenings,
Shavings,
Shoddy,
Shot,
Spices,
Starch,
Straw (chopped),
Sugar,
Tea,
Tanbark (ground),
White Lead,
And many other materials.

Forms Part of Such Machines as

Amalgamators,
Bolting Chests,
Canning Machines,
Coal Washers,
Concrete Mixers,
Corn Shellers,
Excavators,
Grain Driers,
Kiln Driers,
Lard Mixers,
Middlings Purifiers,
Ore Concentrators,
Ore Washers,
Oleomargarine Mixers,
Phosphate Rock Crushers,
Peanut Roasters,
Quartz Mills,
Reduction Mills,
Rock Crushers,
Soap Crutchers,
Sausage-Stuffers,
Threshing Machines
And many others.

Is Used in

Breweries,
Brick Yards,
Cement Works,
Coffee Houses,
Corn Mills,
Cotton Seed Oil Mills,
Distilleries,
Drug Mills,
Glass Works,
Glucose Works,
Grain Elevators,
Hominy Mills,
Malt Houses,
Oatmeal Mills,
Oil Mills,
Rice Mills,
Spice Mills,
Starch Works,
Sugar Refineries,
Sulphite Fiber Plants,
Tanneries,
Tea Houses,
Tile Works,
White Lead Works.
And many others.

Capacities of Helicoid Conveyors

The following table of capacities is based on actual tests and upon our experience with conveyor installations. The capacities as given are conservative, but in order to obtain them the conveyor must be fed regularly, and the hangers must not be so large as to obstruct the flow of material more than the ordinary hanger. The capacities are based on the recommended maximum speed of conveyor for each material. Slower speeds will decrease the capacities in proportion.

Grain

Size of Helicoid Conveyor	3″	4″	5″	6″	7″	8″	9″	10″	12″	14″	16″
Speed, R. P. M.	200	200	190	180	175	175	170	165	165	160	160
Cu. Ft. per Hr.	34	72	175	243	352	734	910	1205	2180	2935	5110
Bushels per Hr.	27	58	140	195	282	586	728	965	1745	2350	4100

Sand, Gravel or Ashes

(Dry, and with no large lumps or stones)

Size of Helicoid Conveyor	3″	4″	5″	6″	7″	8″	9″	10″	12″	14″	16″
Speed, R. P. M.	125	125	120	115	110	105	100	95	90	85	80
Cu. Ft. per Hr.	20	43	95	126	178	359	421	540	933	1200	2000

Coal

Screenings, or small sized coal, with no lumps larger than 1 inch

*Size of Helicoid Conveyor	7″	8″	9″	10″	12″	14″	16″
Speed, R. P. M.	110	105	100	95	90	85	80
Cu. Ft. per Hr.	269	544	650	838	1460	1905	3260
Tons—(2000 lbs.) per Hr.	6.7	13.6	16.3	20.9	36.5	47.5	79.0

*Small sizes of Helicoid conveyor not recommended for handling coal.

Cement

Size of Helicoid Conveyor	6″	7″	8″	9″	10″	12″	14″	16″
Speed, R. P. M.	125	115	110	100	100	90	90	85
Cu. Ft. per Hr.	167	233	468	541	725	1210	1625	2730
Barrels per Hr.	42	58	117	135	181	303	408	683

It is strongly recommended that wherever possible, conveyors handling gritty or abrasive materials be much larger than the size determined from the preceding tables. The additional wear obtained will more than pay for the slight additional cost.

The size of conveyors selected for handling material containing lumps should of course be governed by the size of the largest lumps rather than the required capacity.

Where possible, use low speeds, and large conveyors. The preceding speeds are intended as *maximum* speeds, and for long life of the conveyor should not be exceeded.

Horse-power Required by Helicoid Conveyors

The following formula will be found useful in ascertaining the horse-power required for Helicoid conveyor.

In all cases in using this formula, figure as the capacity the maximum capacity which the size of conveyor to be used will handle at the speed at which you expect to run the conveyor. See table on opposite page. The formula is conservative, and the running horse-power of the conveyors will probably not be as high as the result obtained from the use of the formula.

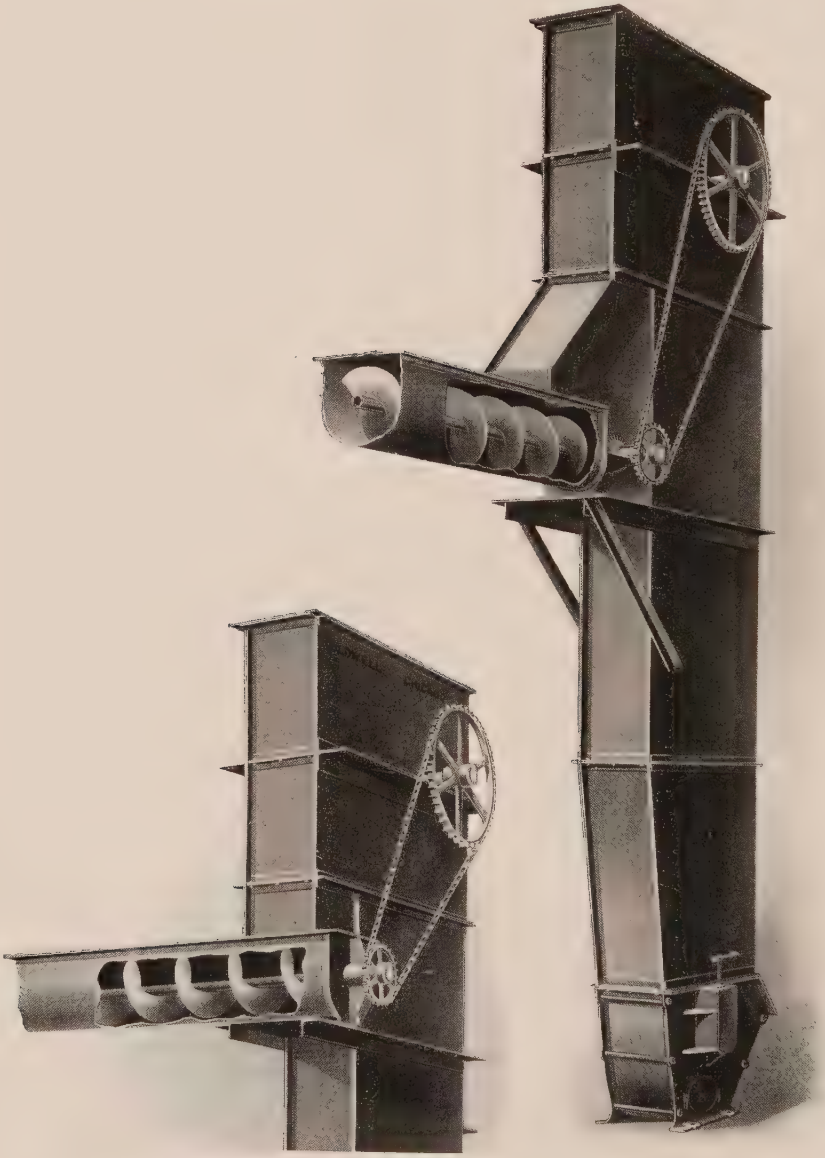
$$\text{H. P.} = \frac{\text{KxCxWxL}}{2{,}000{,}000}$$

Where K = 1.2 for grains.
2.5 for fine coal, cement, etc.
4.0 for sand, ashes, etc.
Where C = capacity in cubic feet per hour.
Where W = weight of material per cubic foot.
Where L = length of conveyor in feet.

It is to be understood that with screw conveyors a great deal depends upon the specific nature and condition of the material to be handled, and for this reason no formula is entirely satisfactory in all cases.

We will be pleased to give our advice as to the power required, etc., in any cases where there is doubt.

Transmitting Power by Conveyor

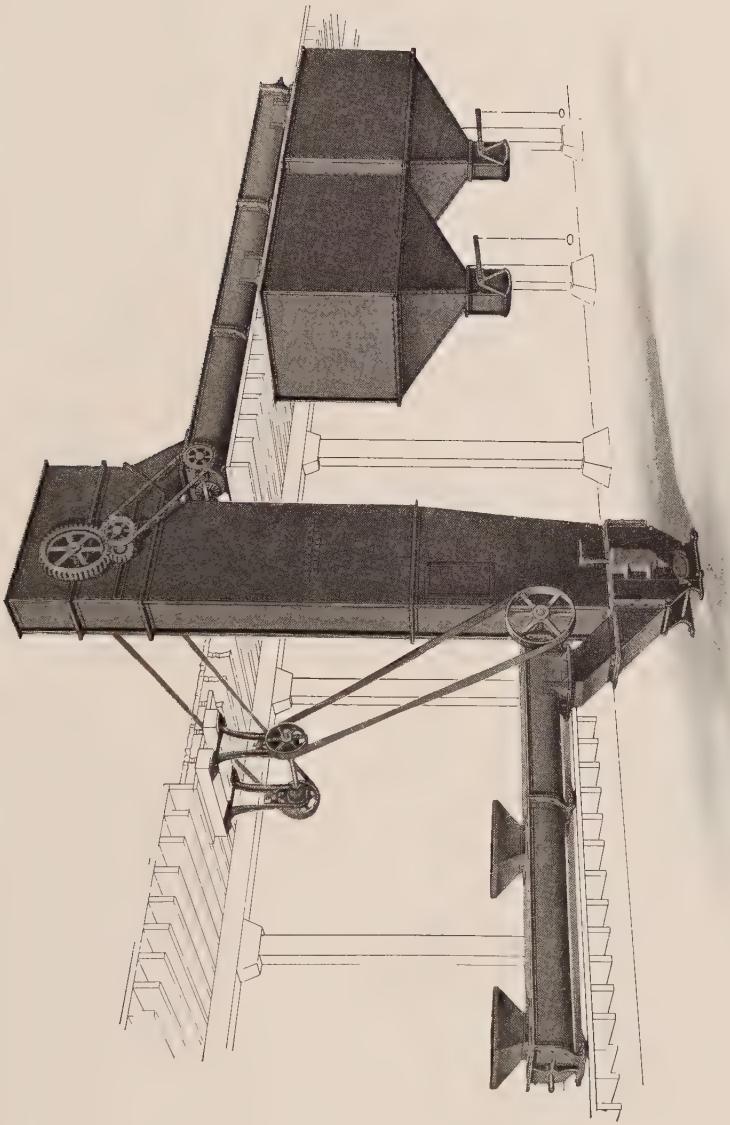


Arrangement A. Arrangement B.

It is frequently convenient to transmit power through the pipe or shaft of a screw conveyor instead of a line shaft. By using a pipe of proper size and strength this can be done with economy and satisfactorily.

With the Caldwell Helicoid Conveyor, having a larger and stronger pipe than the Sectional Flight Conveyor, it is possible to transmit more power than with the Sectional Flight Conveyor.

Where it is expected to transmit power through a conveyor, full information should be given so that a pipe of proper size and strength will be supplied.



Installation of Screw Conveyors and Bucket Elevator, carrying material to storage hoppers

When Ordering Conveyor

We are pleased to furnish order blanks similar to that on the opposite page, printed in copying ink, upon request.

In making out orders for conveyor, please be sure to cover the following points:

1 What is total length of conveyor?
2 Unless otherwise specified, we will furnish standard lengths, where possible, making a special length if necessary, to complete the total length. If special lengths are required throughout, be sure to specify.
3 Do you require Helicoid or Sectional Flight Conveyor? Helicoid Conveyor always furnished, where possible, unless otherwise specified.
4 State gauge of flights required.
5 State size of pipe required.
6 Is conveyor right-hand or left-hand?
7 Are linings required?
8 Are hangers wanted?
9 If hangers are wanted, what style?
10 Are couplings wanted?
11 Are drive ends wanted?
12 If drive ends are wanted, give diameter and projections from pipe.
13 Are any box ends wanted? What style?
14 Is any steel conveyor box wanted? If so, state gauge, size and location of openings.
15 Is any cover wanted on steel conveyor box?

In telegraphing, use telegraph code given below in connection with code words given in the price lists of the various styles of conveyor and fittings.

Telegraphic Code

Ship by freight to	Ibex
Ship by express	Tiger
Ship by boat	Elk
With one regular diameter, drive end	Bear
With lining, hangers and couplings complete	Monkey
No lining, but with hangers and couplings	Mule
No lining, no hangers, but with couplings	Snake
No lining, no hangers, no couplings	Camel
Inches projection	Bull
In one piece	Jackal
When can you ship	Donkey
When can you ship order of	Badger
When did you ship order of	Giraffe
Change from R. H. to L. H. order of	Mink
Change from L. H. to R. H. order of	Mare
Send tracer and hurry up shipment to	Pig

Order Blank for Caldwell Conveyor

Order No. 293. *Dated* 10-15 *19*23

To H. W. CALDWELL & SON CO.,
Engineers, Founders and Machinists,
Western Avenue, 17th Street to 18th Street,
CHICAGO, ILL.

Ship to .....

Freight Station .....

Route via .....*R. R.*

.....*Express*

.....*feet of* .....*inch diameter* CALDWELL CONVEYOR,

style .....*hand* .....*gauge*

flights on pipe { *standard weight and size.* / .....*inch*....*inside diameter.*

.....*feet of lining* { *standard width and gauge.* / .....*inches wide*.....*gauge.*

.....*coupling*.....

.....*hanger*....*style preferred, figure*.....*page*.....

.....*drive end*.....*inch*....*diameter and projecting*....*inches from pipe.*

.....*tail end*.....*inch*....*diameter and projecting*....*inches from pipe.*

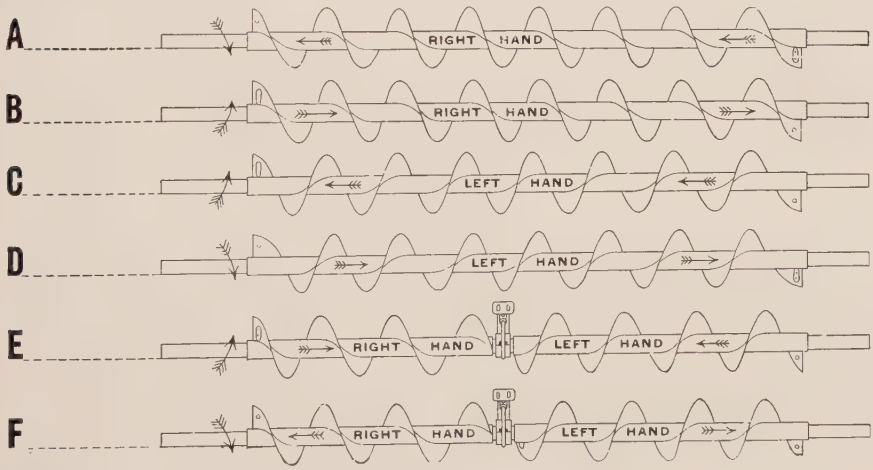
.....*cast iron box end*.....*style shown page*.....*figure*....

.....*counter shaft box end*.....*complete, style shown page*....*figure*....

.....*improved right angle drive*....*complete, style shown page*....*figure*....

.....*miter gear box end*.....*complete, style shown page*....*figure*....

.....*pillow block for*....*inch*....*diameter shaft, style shown page*..*figure*....



Charge to .....

.....

Helicoid Steel Caldwell Conveyor

Fig. 45006

If possible, use sizes given in black face type, and use standard lengths, as these are carried in stock. Special lengths of section can be furnished if required.

Prices are for standard gauge flights on regular strength pipe. Extra strength pipe of standard outside diameter, or solid shaft conveyor, can be furnished if necessary, at additional charge.

Standard lengths given include the width of one hanger bearing.

For recommended speeds and approximate capacity with various materials, see pages 16 and 17.

Price List, Subject to Discount

Diameter Inches	Price per Foot	CODE WORDS Plain steel understood unless otherwise specified		Standard Lengths, Feet	Diameter of Couplings, Inches	Inside Diameter of Hollow, Shaft, Inches	Outside Diameter of Hollow, Shaft, Inches
		Right Hand	Left Hand				
3	$1.75	Abatvert	Abbotship	8	3/4	1	1 5/16
4	**1.75**	**Abaptiston**	**Abatardir**	**8**	**1**	**1 1/4**	**1 5/8**
5	2.00	Abbacy	Abbreviate	8	1	1 1/4	1 5/8
6	**2.00**	**Abarbetar**	**Abatir**	**10**	**1 1/2**	**1 3/4**	**2 1/8**
7	2.50	Abbatial	Abcoude	10	1 1/2	1 3/4	2 1/8
8	**2.50**	**Abbess**	**Abcedar**	**10**	**1 1/2**	**2**	**2 3/8**
9	**2.50**	**Abarcado**	**Abatfaim**	**10**	**1 1/2**	**2**	**2 3/8**
9 Spl.	3.25	Abase	Abatido	10	2	2 1/2	2 7/8
10	**3.00**	**Abbey**	**Abdals**	**10**	**1 1/2**	**2**	**2 3/8**
12	**3.50**	**Abasement**	**Abatised**	**12**	**2**	**2 1/2**	**2 7/8**
12 Spl.	4.50	Abatable	Abattoir	12	2 7/16	3	3 1/2
14	**5.00**	**Acidetta**	**Acidify**	**12**	**2 7/16**	**3**	**3 1/2**
16	**6.25**	**Abatage**	**Abatude**	**12**	**3**	**3 1/2**	**4**

Prices above include with each *standard length:*

One hanger, either Style No. 13, 14, 17 or 18.
One coupling.
Four coupling bolts.
Necessary lining of standard gauge.

If any of the above fittings are not required, proper deduction will be made. Fittings always included unless otherwise specified.

Prices upon Galvanized Conveyor quoted on application.

Heavy Helicoid Conveyor

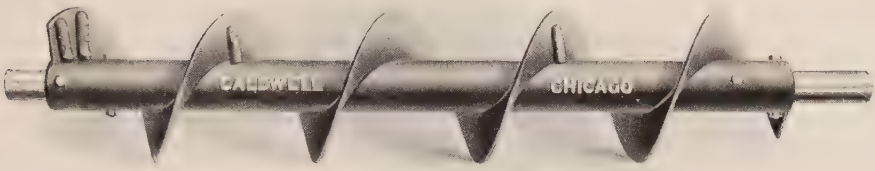


Fig. 45007

Use standard lengths where possible, in order to draw from our stock in case of repairs. Special lengths of conveyor can be furnished if necessary. Standard lengths given include the width of one hanger bearing.

Heavy Helicoid Conveyor has heavier flights and larger pipe than Sectional Flight Conveyor at the same price. Comparative dimensions are given on page 13.

Heavy Helicoid Conveyor can be furnished on extra heavy pipe of standard outside diameter or on solid shaft at extra charge.

Special Helicoid Conveyors with special thickness of flights or special size of pipe can be made to order. Prices on application.

For recommended speeds and approximate capacity with various materials, see pages 16 and 17.

Price List, Subject to Discount

Diameter, Inches	Price per Foot	CODE WORDS		Standard Lengths, Feet	Thickness of Flight Next Pipe, Inches	Thickness of Flight, Outer Edge, Inches	Inside Diameter Pipe, Inches	Diameter Couplings, Inches	If Made on Solid Shaft, Diameter Shaft, Inches
		Right Hand	Left Hand						
4 x	$2.75	Aaronical	Abajoue	8	3/16	.11	1 1/4	1	1 5/8
6 x	3.00	Abacist	Abalanzar	10	1/4	.125	1 3/4	1 1/2	2 1/8
6 xx	3.50	Abacot	Abaldonar	10	3/8	.2	1 3/4	1 1/2	2 1/8
7 x	3.75	Abdara	Abderus	10	1/4	.141	1 1/2	1 3/16	1 15/16
9 x	4.75	Abactor	Abaliente	10	3/8	.172	2	1 1/2	2 3/8
9 xx	5.50	Abadesa	Abanderado	10	3/8	.19	2 1/2	2	2 15/16
10 xx	6.50	Abdico	Abdime	10	3/8	.19	2 1/2	2	2 15/16
12 x	6.00	Abaisance	Abangus	12	3/8	.17	2 1/2	2	2 15/16
12 xx	7.00	Abaisser	Abannition	12	3/8	.18	3	2 7/16	3 7/16
12 xxx	8.50	Abajarse	Abapo	12	1/2	.25	3 1/2	3	3 15/16
14 xx	8.00	Abdruck	Abducido	12	7/16	.234	3 1/2	3	3 15/16
16 xxx	10.00	Abeatar	Abedul	12	1/2	.25	4	3	4 7/16

Prices above include with *each standard length:*—
One hanger, either style No. 13, 14, 17, or 18. One coupling. Four Coupling Bolts.
When any of above fittings are not required, proper deduction will be made.
Lining is *not* included with Heavy Conveyors.
Prices upon Galvanized Conveyor quoted upon application.

Caldwell Sectional Flight Steel Conveyor

Standard Thickness of Flights

Fig. 45008

Use standard lengths where possible, in order to draw from our stock in case of repairs. Special lengths can be furnished if necessary. Standard lengths include the width of one hanger bearing.

Special diameters of conveyor and conveyor on special sizes of pipe and on solid shaft can be made to order. Prices on application.

We recommend the use of Caldwell Helicoid Conveyor, as a better and stronger conveyor in every way. Prices for corresponding sizes are the same for both styles. See Comparison of Dimensions on page 13.

For recommended speeds and approximate capacity with various materials, see pages 16 and 17.

Price List, Subject to Discount

Diameter, Inches	Price per Foot	CODE WORDS Plain Steel understood unless otherwise specified		Standard Lengths, Feet	Inside Diameter of Hollow Shaft, Inches	Outside Diameter of Hollow Shaft, Inches	Diameter of Couplings, Inches
		Right Hand	Left Hand				
4	$1.75	Adelinaba	Adergerete	8	1	1 5/16	1
6	2.00	Adelinecho	Adergono	10	1 1/2	1 15/16	1 1/2
9	2.50	Ademador	Adescatura	10	1 1/2	1 15/16	1 1/2
12	3.50	Ademerunt	Adestranza	12	2	2 3/8	2
16 on 3	6.25	Adephagy	Adevinasen	12	3	3 1/2	3
18	7.50	Aderabais	Adhalabat	12	3	3 1/2	3

Prices above include with *each standard length:*

One hanger, either style No. 13, 14, 17 or 18.
One coupling.
Four coupling bolts.
Necessary lining of standard gauge.

If any of the above fittings are not required, proper deduction will be made. Fittings always included unless otherwise specified.

Prices upon Galvanized Conveyor quoted on application.

Caldwell Sectional Flight Conveyors

With Heavy Flights

Price List, Subject to Discount

Diameter, Inches	Thickness of Steel Flights in Inches	Inside Diameter of Hollow Shaft, Inches	Price per Foot	CODE WORDS		Standard Lengths, Feet	Outside Diameter of Hollow Shaft, Inches	Diameter of Couplings, Inches
				Right Hand	Left Hand			
4	1/8	1	$ 2.75	Abdicate	Abetted	8	1 5/16	1
4	3/16	1	3.00	Abetir	Abettor	8	1 5/16	1
4	1/4	1	3.50	Abdication	Abetting	8	1 5/16	1
6	1/8	1 1/2	3.00	Abdiquer	Abetment	10	1 15/16	1 1/2
6	3/16	1 1/2	3.50	Abditary	Abetunar	10	1 15/16	1 1/2
6	1/4	1 1/2	4.00	Abdomen	Abeyance	10	1 15/16	1 1/2
6	3/8	1 1/2	5.50	Laboradas	Labourable	10	1 15/16	1 1/2
9	1/8	1 1/2	3.75	Abdominal	Abeyantly	10	1 15/16	1 1/2
9	3/16	1 1/2	4.75	Abduce	Abhorrent	10	1 15/16	1 1/2
9	1/4	1 1/2	5.50	Abducing	Abider	10	1 15/16	1 1/2
9	1/8	2	4.75	Abdominuos	Abhor	10	2 3/8	2
9	3/16	2	5.50	Abducent	Abidance	10	2 3/8	2
9	1/4	2	6.25	Abduction	Abiding	10	2 3/8	2
9	5/16	2	7.25	Laborant	Labourais	10	2 3/8	2
9	3/8	2	8.00	Abecedary	Abigotado	10	2 3/8	2
12	3/16	2	6.00	Abed	Abiliment	12	2 3/8	2
12	1/4	2	7.00	Abensur	Abject	12	2 3/8	2
12	3/16	3	7.00	Abeille	Ability	12	3 1/2	3
12	1/4	3	8.50	Aberdevine	Abjection	12	3 1/2	3
12	5/16	3	10.00	Laboratory	Labourless	12	3 1/2	3
12	3/8	3	11.50	Aberrance	Abjectness	12	3 1/2	3
12	1/2	3	15.00	Abexim	Abeyant	12	3 1/2	3
14	3/16	2	7.00	Laboravero	Labourous	12	2 3/8	2
14	1/4	2	8.00	Labore	Laboursome	12	2 3/8	2
14	3/16	3	8.00	Laboreaba	Labrabais	12	3 1/2	3
14	1/4	3	9.00	Laboreamos	Labrace	12	3 1/2	3
16	3/16	2	9.00	Abeigh	Abejas	12	2 3/8	2
16	1/4	2	9.50	Abelian	Abfluss	12	2 3/8	2
16	3/16	3	9.00	Aberrant	Abjugate	12	3 1/2	3
16	1/4	3	10.00	Aberration	Abjunctive	12	3 1/2	3
16	5/16	3	12.00	Laboribus	Labradero	12	3 1/2	3
16	3/8	3	15.00	Laborieren	Labradores	12	3 1/2	3
16	1/2	3	18.00	Laborinum	Labramos	12	3 1/2	3
18	3/16	3	12.50	Laboulaye	Labrandera	12	3 1/2	3
18	1/4	3	14.00	Acedan	Acedior	12	3 1/2	3
18	5/16	3	16.00	Aberring	Abjuration	12	3 1/2	3
18	3/8	3	20.00	Labranzus	Labraron	12	3 1/2	3
18	1/2	3	25.00	Aberuncate	Abjure	12	3 1/2	3
20	3/16	3	14.00	Acurro	Accursas	12	3 1/2	3
20	1/4	3	16.50	Accusant	Accultos	12	3 1/2	3
20	5/16	3	19.00	Acebos	Acebunt	12	3 1/2	3

Prices above include with *each standard length:*—

One hanger, either style No. 13, 14, 17, or 18. One coupling. Four coupling bolts.

If any of the above fittings are not required, proper deduction will be made.

Lining is *not* included with *heavy* conveyors.

We recommend Heavy Helicoid Conveyor in preference to Heavy Sectional Flight Conveyor. It is heavier and stronger than the Sectional Flight Conveyor taking the same list prices. See diagrams and comparative dimensions on page 13.

For recommended speeds and approximate capacities with various materials, see pages 16 and 17.

Prices upon Galvanized Conveyor quoted on application.

Ribbon Conveyor

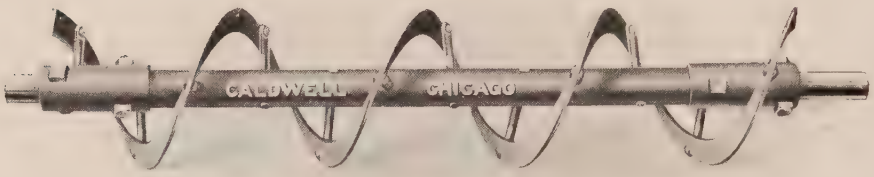


Fig. 45009. (*Acclivity*)

This type of conveyor is peculiarly adapted for handling sticky materials, such as molasses, hot tar, asphalt, sugar, etc. Material of the character specified is apt to collect on the flight of an ordinary conveyor where the flight joins the pipe. The clear space around the pipe in a Ribbon Conveyor avoids this difficulty.

The capacity of a Ribbon Conveyor is about as much as that of a Solid Flight Conveyor of corresponding size, as the action of the ribbon is to move forward the material in practically a solid stream. A Ribbon Conveyor does not have any marked mixing action upon the material conveyed. We are especially equipped for the manufacture of this type of conveyor.

Caldwell Ribbon Conveyor with Bevel Edge

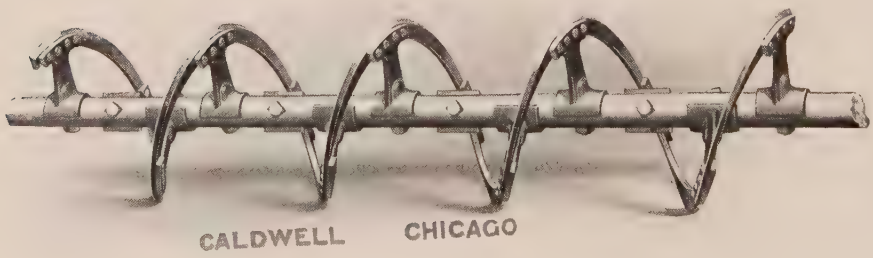


Fig. 45010. (*Labrosus*)

The sharp edge of the flight prevents any tendency of the material to pack between the bottom of the trough and the edge of the flights.

This style of conveyer is not covered by the price list on page 27.

Ribbon Conveyor, with Helicoid Flights

The sizes named below are those for which we generally have flights in stock. The flights are continuous and have all the advantages of the Helicoid Conveyor. If possible, selection of sizes should be made from this list, in order to secure as prompt delivery as possible.

In addition to the sizes named we can furnish Ribbon Conveyor of practically any dimension required, either of the Helicoid style or with sectional flights. Prices named on receipt of specifications.

Price List, Subject to Discount

Diameter, Inches	Width of Flights, Inches	Thickness of Flights at Outer Edge, Inches	Price per Foot	CODE WORD		Approximate Pitch, Inches	Outside Diameter Pipe, Inches	Diameter Couplings, Inches
				Right Hand	Left Hand			
6	1	1/8	$4.50	Labrusca	Lacchezzo	6	2 3/8	1 1/2
6	1	13/64	5.00	Labrusque	Lacciatura	6	2 3/8	1 1/2
8	1 1/2	9/64	5.50	Labry	Laccina	9	2 3/8	1 1/2
8	1 1/2	1/4	6.00	Labsalben	Laccique	9	2 3/8	1 1/2
9	1 1/2	11/64	5.50	Labsales	Laccofilo	9	2 3/8	1 1/2
9	1 1/2	1/4	6.00	Labundorum	Laccos	9	2 3/8	1 1/2
10	1 5/8	3/16	6.00	Labundos	Laceabas	9	2 3/8	1 1/2
10	1 5/8	1/4	6.50	Labundum	Laceais	9	2 3/8	1 1/2
12	2 1/2	11/64	6.50	Labung	Lacearamos	12	2 7/8	2
12	2	1/4	7.00	Labungen	Lacearan	12	2 7/8	2
12	1 5/8	9/32	7.50	Laburnine	Lacedaemon	12	2 7/8	2
12	2	5/16	8.00	Laburnique	Laceemos	12	2 7/8	2
14	2 1/2	3/16	7.00	Laburno	Lacellie	14	2 7/8	2
14	2	1/4	7.50	Labutacao	Lacemaker	14	2 7/8	2
14	2 1/2	5/16	8.00	Labycas	Laceraba	14	2 7/8	2
14	2 1/2	3/16	8.00	Lacabane	Lacerabili	14	3 1/2	2 7/16
14	2	1/4	8.50	Lacaria	Laceracao	14	3 1/2	2 7/16
14	2 1/2	5/16	9.00	Lacaussade	Laceradora	14	3 1/2	2 7/16
16	2 1/2	11/64	9.50	Lacayuns	Lacerammo	16	3 1/2	2 7/16
16	2 1/2	5/16	10.00	Lacca	Lacerarent	16	3 1/2	2 7/16
16	2 1/2	11/64	10.00	Laccaribus	Lacerarian	16	4	3
16	2 1/2	5/16	10.50	Laccarum	Lacerarono	16	4	3
18	2 1/2	1/4	11.00	Laccetto	Lacerassi	16	4	3
18	3	1/4	11.50	Lacchetta	Lacerate	16	4	3

Prices above include with each standard length:

One hanger, either Style No. 13, 14, 17 or 18.
One coupling.
Four coupling bolts.

If any of the above fittings are not required, proper deduction will be made.

Lining is *not* included with Ribbon Conveyor.

Cast Iron Conveyors

Cast Iron Conveyors are particularly suitable for use with acid materials, which would rapidly corrode and destroy the ordinary steel conveyor. The Cast Iron Conveyor is of course more expensive and comparatively heavy, but for use with corrosive materials it will be found more economical in certain cases.

We make both Continuous Flight and Sectional Flight types. In both cases the length of sections between hangers should be much shorter than with the steel conveyor, due to the weight.

Continuous Flight Cast Iron Screw Conveyor

Fig. 45011. (*Iduaturam*)

The pipe and flights are cast in one piece for each length. The spiral is true and the surface of the flights very smooth. Maximum lengths of section are given in price list.

Price List, Subject to Discount

Diameter of Conveyor, Inches	Price per Foot	CODE WORD		Maximum Length of Section	Diameter of Couplings, Inches	Pitch, Inches
		Right Hand	Left Hand			
6	$4.00	Ligeaute	Ligeras	5 ft.	1½	6
9	4.75	Iduaturi	Ifidra	5 ft.	1½	9
12	5.60	Iduaturos	Ifthiakas	5 ft.	2	12
16	8.15	Iduavero	Ifurin	5 ft.	3	16

Prices above include with each length:
One coupling.
Four coupling bolts.

Hangers and lining are *not* included.

Caldwell Sectional Flight Cast Iron Conveyor

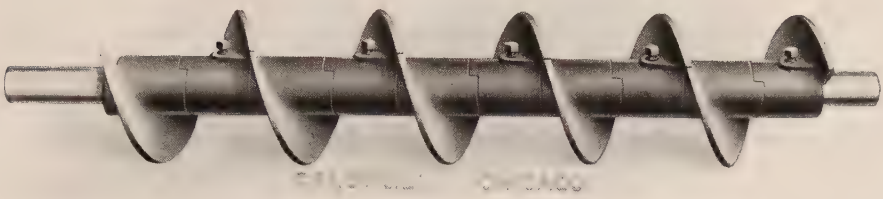


Fig. 45012. (*Idruro*)

Flights of cast iron, in short sections extending one-half turn, and locked together as shown. Shaft of steel, extending the entire length of section. Where several sections are used, a special form of coupling is provided to couple the sections together.

Price list below includes suitable couplings, but no hangers or lining.

Price List, Subject to Discount

Diameter Conveyor, Inches	Price per Foot	CODE WORD		Style of Spiral	Pitch, Inches	Diameter of Shaft, Inches
		Right Hand	Left Hand			
6	$10.00	Alprozen	Alrahei	Single	6	$1\frac{1}{2}$
9	12.00	Alptekin	Alrota	Single	9	2 or $2\frac{3}{16}$
12	15.00	Alpzeit	Altesse	Single	12	2, $2\frac{3}{16}$ or $2\frac{7}{16}$
14	20.00	Limabile	Limador	Single	12	$2\frac{15}{16}$ or 3
14	30.00	Alpzopf	Altezza	Double	12	$2\frac{15}{16}$ or 3
16	25.00	Limabor	Limaille	Single	16	$2\frac{15}{16}$ or 3
18	30.00	Lilienhand	Lilienhaut	Single	12	$2\frac{15}{16}$ or 3
18	30.00	Limacon	Limalha	Single	18	$2\frac{15}{16}$ or 3
18	45.00	Alquifol	Altfrau	Double	12	$2\frac{15}{16}$ or 3

Caldwell Sectional Flight Cast Iron Conveyor on Square Shaft

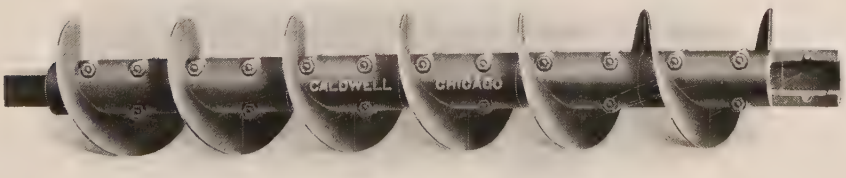


Fig. 45013

Prices on application

Brass, Copper and Aluminum Conveyors

In handling material which corrodes steel or galvanized steel, we recommend conveyor made of brass, copper or aluminum. We manufacture a considerable quantity of this type of conveyor for handling wet tanbark, white lead, material in tanning plants, and for use in tartar works, chemical works and for acid materials in general.

While this conveyor is, of course, somewhat more expensive than steel, its use is necessary and proves economical in a great many cases. We can furnish couplings, linings, bolts, hangers, etc., also made of brass and aluminum. Prices upon application.

In some cases cast iron conveyors, shown on pages 28 and 29, can be used, and are somewhat cheaper than brass, copper or aluminum conveyors.

Caldwell Double Ribbon Conveyor

Fig. 45014. (*Labrose*)

The Double Ribbon Conveyor shown above is used for mixing starch, dough and similar materials. The hand of the outer ribbon is the opposite from the hand of the inner ribbon, so that the material is thoroughly mixed and worked backward and forward. Made in various sizes from 12 inches to 36 inches, or larger, outside diameter. Prices upon application.

Double Flight Conveyor

Fig. 45015. (*Acclive*)

Where the material to be handled is heavy, and it is not desired to use extremely heavy flights with thick edges, the same strength can be obtained by using a Double Flight Conveyor. The conveyor also has the advantage of delivering material in a steadier stream than the regular single threaded screw. The pitch of this conveyor is the same as regular conveyor, although, of course, the space between the flights is one-half the distance between the corresponding Single Flight Conveyor.

Our Caldwell Helicoid Conveyor, being a true spiral and uniform in pitch, is especially adapted for the manufacture of Double Flight Conveyor.

Prices on application.

Caldwell Double Sectional Flight Cast Iron Conveyor

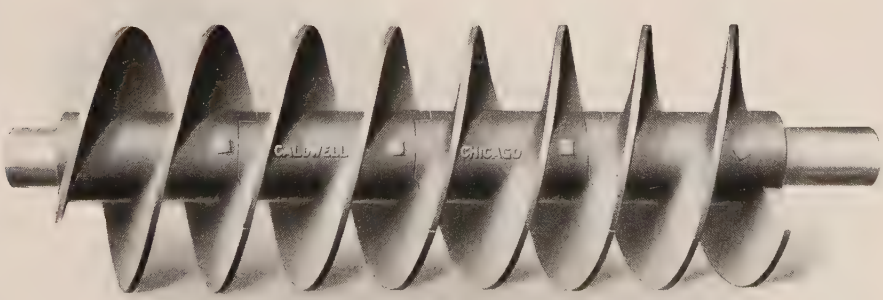


Fig. 45016. (*Labriegas*)

Caldwell Cut-Flight Conveyor

Fig. 45017. (*Acclivous*)

Cut-Flight Conveyor is the conveyor generally used in cotton seed oil mills for removing sand, dirt and grit from the cotton seed. The cut flight conveyor is placed in a box having a perforated steel lining. (See Fig. 45102.) The conveyor stirs up the material and the perforations sift out the sand, dirt, grit, etc.

Where cut flight conveyor is ordered it is recommended that the flights be made heavier than would be otherwise required, as cutting away the flights necessarily weakens them somewhat.

In the absence of definite specifications as to the thickness of the flight we figure such conveyor regular gauge.

Caldwell Conveyor with Cut-Flight and Mixing Paddles

Fig. 45018. (*Accoil*)

Cut-Flight Conveyor with Mixing Paddles has an action somewhat more thorough than ordinary Cut Flight Conveyor, although the paddles, of course, retard the progress of the material.

Winfrey Patent Cleaner Conveyor

Fig. 45019. (*Lijschoot*)

The Winfrey Patent Cleaner Conveyor has proven superior to Cut-Flight Conveyor or Cut and Folded Flight in the removal of dirt and sand from cotton seed before storing it in the seed house. It is a comparatively new device, but is already in extensive use and is giving entire satisfaction.

It may also be used for the removal of dirt from other materials in transit. The action of the conveyor is to lift up the material and thoroughly separate it, allowing the dirt to fall out. The paddles do not injure the cotton seed in any way.

The flights of the conveyor do not need to be heavier than would ordinarily be used for conveying the material.

Prices will be quoted upon application.

Caldwell Conveyor with Mixing Paddles

Fig. 45020. (*Accolade*)

Mixing Paddles are used to stir the material during transit, and also to retard the movement of the material, in conveyors used for cooling, etc. The Standard Flat Paddle shown above is generally set with the pitch opposite to the hand of the conveyor.

Price List Paddles Only, Subject to Discount

Diameter of Conveyor, Inches	Inside Diameter Pipe, Inches	Paddle Number	Price Each, Inserted	Price Each, Paddle only	CODE WORD
4	1¼	0	$1.25	$ .60	Lesbiacos
5	1¼	1	1.25	.60	Lesbiacum
6	1½	1	1.25	.60	Lesbiano
6	1¾	1	1.25	.60	Lesbisch
7	1½	2	2.30	1.10	Lesboarum
7	1¾	2	2.30	1.10	Lesboeken
8	1½	2	2.30	1.10	Lesbonax
8	2	2	2.30	1.10	Lesbonicus
9	1½	2	2.30	1.10	Leschbak
9	2	2	2.30	1.10	Leschdrank
9	2½	3	2.30	1.10	Leschtrog
10	2	3	2.30	1.10	Leschtuig
10	2½	3	2.30	1.10	Leschwater
12	2	3	2.30	1.10	Leslache
12	2½	4	2.50	1.30	Leseart
12	3	6	3.00	1.60	Lesebuch
12	3½	6	3.00	1.60	Lesehalle
14	2	6	3.00	1.60	Lesëholz
14	2½	6	3.00	1.60	Leseholzes
14	3	6	3.00	1.60	Lesgeven
16	2	6	3.00	1.60	Lesgevers
16	3	6	3.00	1.60	Lesghien
16	3½	6	3.00	1.60	Lesivas
16	4	6	3.00	1.60	Lespedeze

Special Round Pattern Mixing Paddles

Fig. 45021. (*Labratorum*)

Special Round Pattern Paddles are sometimes used in place of the Standard Flat Paddles shown on page 34. Prices will be quoted on application.

Caldwell Cut and Folded Flight Conveyor

Fig. 45022. (*Accloy*)

Cut and Folded Flight Conveyor is sometimes used where it is necessary to lift and stir the material thoroughly and retard the forward progress of the material as much as possible. It is most successful in handling light material.

Mixer and Stirrer with Curved Cast Iron Paddles

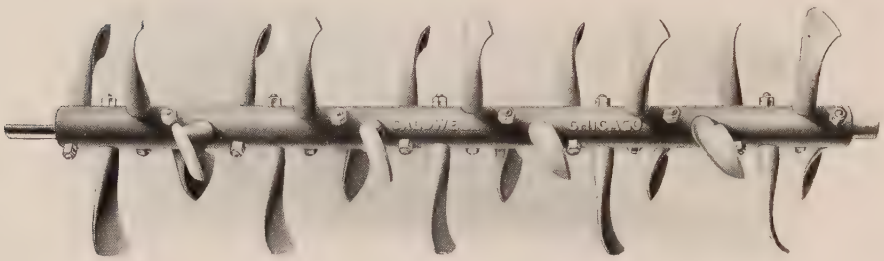


Fig. 45023. (*Labrelle*)

We are prepared to make paddle mixers as shown on this and the following page in various styles, depending upon the character of the work to be done. By changing the pitch of the paddles the speed at which the material is carried forward may be changed.

Special Heavy Paddle Mixer

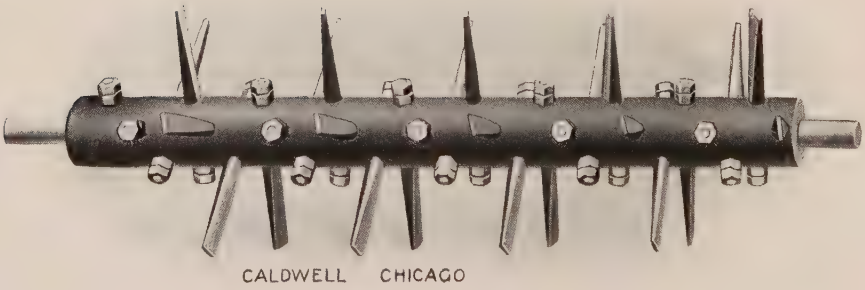


Fig. 45024. (*Lanctante*)

The mixer shown above has steel paddles and is suitable for very heavy work. If necessary, paddles can be made with broader blades than those shown in the cuts. Prices upon application.

Caldwell Sectional Cast Iron Paddle Flight Conveyor

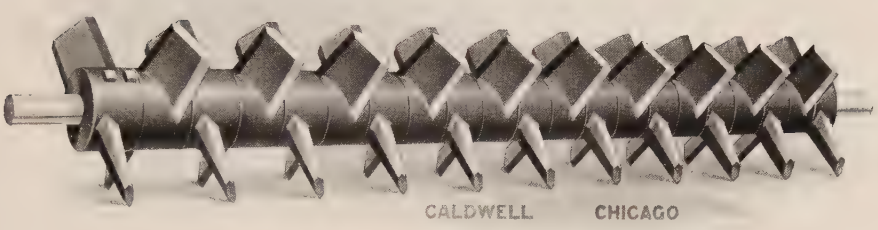


Fig. 45025. (*Labreux*)

This type of mixer is particularly suited for use with materials which would affect steel. It is very heavy. Size of blades and pitch can be altered to suit conditions. Prices upon application.

Special Paddle Mixer with Spur Gear Drive

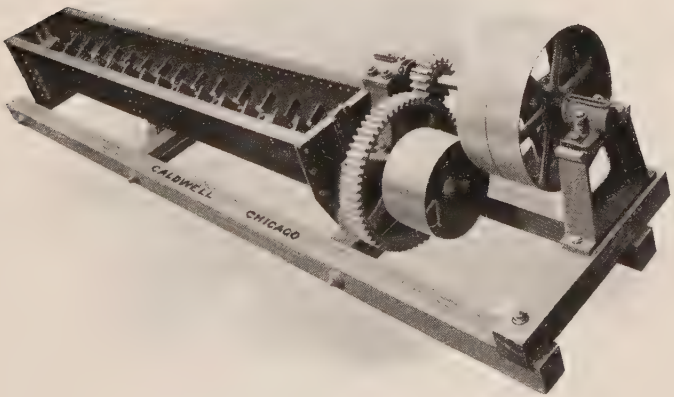


Fig. 45026. (*Lisspond*)

We are prepared to furnish any of the preceding styles of mixers, mounted in steel box with hoppers, discharge spouts and driving gears. Prices upon receipt of information as to the material to be handled, capacity desired, etc.

Conveyor Couplings

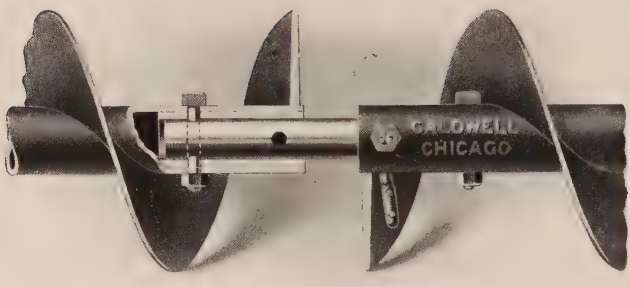


Fig. 45027. (*Laceration*)

Pipe used with Helicoid Conveyor is larger than pipe used with the corresponding Sectional Flight Conveyor (see page 13). By using internal collars (Fig. 45048) the couplings for Helicoid Conveyor are the same diameter as for Sectional Flight Conveyor of corresponding size, and are interchangeable.

The larger pipe of the Helicoid Conveyor makes a stronger conveyor, and the use of the internal collars does away with the obstruction that the external collar of the Sectional Flight Conveyor offers to the passage of the material.

Price List, Subject to Discount

Diameter Coupling, Inches	Price Each	CODE WORD
¾	$ .75	Lilienbaum
1	1.00	Abrasion
1½	1.75	Abraxas
2	3.00	Abrensin
2 7/16	4.00	Abreption
3	6.00	Abrewer

Above prices do not include bolts. For price list of bolts, see page 47.

Caldwell Slotted Pipe Conveyor Coupling

(Patent Applied For.)

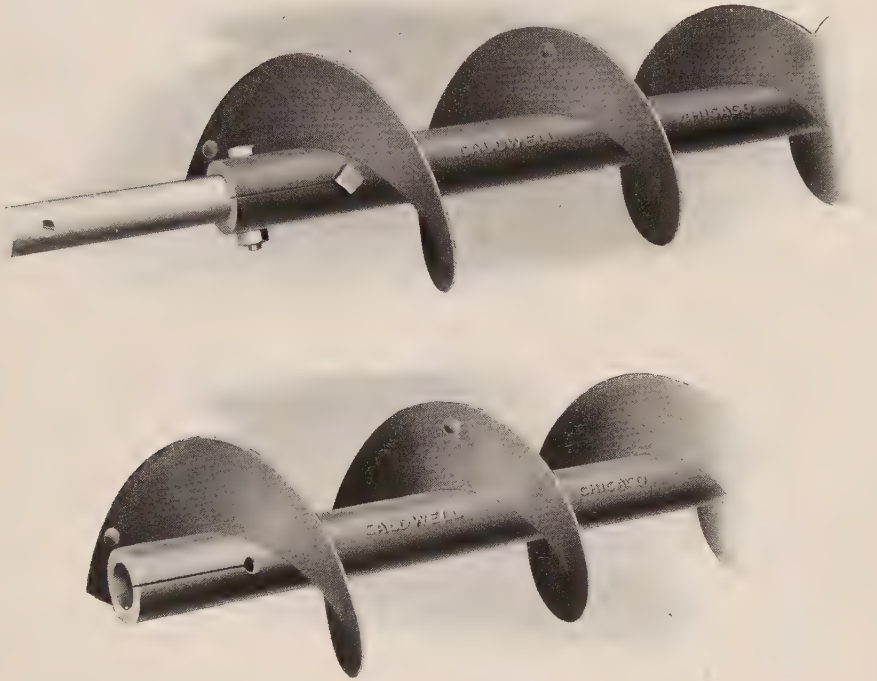


Fig. 45028. (*Lijstbalk*)

The ordinary four-bolt coupling, while amply strong for most work, has the disadvantage of allowing some play between the pipe and the coupling shaft. This slight play is sufficient under severe service to allow the bolts to wear the holes in the pipe, so that they become oblong, and the bolts themselves also wear out, requiring replacement.

The Caldwell Slotted Pipe Coupling was designed to avoid this trouble. The pipe is slotted to the second bolt hole. Tightening the bolts clamps the pipe and collar on the coupling shaft, and prevents movement of the coupling in the collar, in the same manner as a compression coupling on a line shaft.

The slot does not weaken the pipe shaft, as it has been found in practice that, with the old type of coupling, whenever the load was so excessive as to break the pipe, the break occurred in the pipe beyond the collar, and practically never where the collar reinforces the pipe. The slot does not extend to the end of the collar and does not weaken the section where the break is likely to occur under an overload.

The coupling used is the standard four bolt coupling, shown on page 38. The bolts should be tightened sufficiently to clamp the pipe on the shaft. Care should be taken to line up the conveyor accurately, so that the conveyor will not bind in the hangers.

Additional charges for furnishing conveyor with this coupling will be quoted upon application.

Caldwell Oil-Impregnated Wood Bearings for Hangers

Fig. 45029. (*Lijsterbes*)
For No. 16, 24 and 24-A Hangers

Fig. 45029-A. (*Limenarque*)
Cap for No. 17, 18 and 19 Hanger

Oil-Impregnated Bearings are made of hardwood, thoroughly impregnated with oil by a special process. It is not necessary to lubricate these bearings, as the oil in the wood furnishes sufficient lubrication. In carrying certain kinds of material, oil or grease in the hanger bearing is objectionable, as it is liable to drip into the material and cause damage. This is particularly true in food products plants, and the Oil-Impregnated Hanger Bearing overcomes this difficulty. The amount of oil in the wood is not enough to cause damage to the material being carried, but is sufficient for proper lubrication.

In some cases it is difficult to oil the hanger bearings, because of the location of the conveyor, etc. In such installations the Oil-Impregnated Bearing will be found very useful. In some cotton seed oil mills these bearings have run an entire season without replacement.

The bearings are made from lignum vitae, persimmon or maple. Prices on bearings only or hangers complete with bearings quoted on application.

Caldwell Square Shaft Coupling for Conveyors

Fig. 45030. (*Drittel*)

Where the service is especially severe or where for any reason the regular four-bolt coupling does not prove strong or durable enough, the above type of coupling may be substituted to advantage. The conveyor pipe ends are bushed with special bushings having a square hole fitting the square coupling shaft. On the square coupling shaft is placed a collar or sleeve which forms the journal bearing and which can readily be replaced in case of wear. An extra charge is made for this type of coupling, prices being given upon application.

Special Conveyor Couplings

Fig. 45032. (*Lijstwerk*)

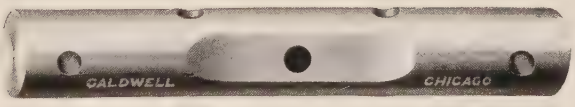


Fig. 45031. (*Lijstkrans*)

The types of couplings and bushings shown on this and the following two pages are used particularly where the hanger bearing cannot be lubricated. The bushing and bearings are generally made of chilled white iron.

The type shown above is particularly suited for hangers similar to No. 20, page 54. Both the bushing and bearing are split and the bushing is pinned to the coupling.

Special Conveyor Couplings

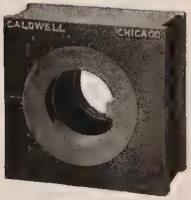


Fig. 45033. (*Lijviger*)

Fig. 45034. (*Lijzeilen*)

Fig. 45036. (*Likbaga.*)

Fig. 45035. (*Lijzeilsra*)

The style shown above is suited to hangers similar to No. 24. The bushing is not split, but the feather fits in the keyseat on the coupling shaft. The bearing is split. Price upon application.

Fig. 45037. (*Likdoorn*)

Fig. 45038. (*Likeable*)

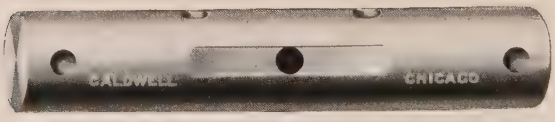


Fig. 45039. (*Likehood*)

The style shown above is similar to Fig. 45034, except that the bushing is split and is generally pinned to the shaft. Suitable for use with hangers similar to No. 16 and No. 24. Prices upon application.

Special Conveyor Couplings

Fig. 45041. (*Likened*)

Fig. 45040. (*Likeliness*)

This style of coupling differs from the preceding styles in that the shaft is squared. Suitable for use with hangers similar to No. 16 and No. 24. Prices upon application.

Fig. 45042. (*Likeness*)

Fig. 45043. (*Likening*)

Fig. 45044. (*Likeurglas*)

This style is similar to Fig. 45032, page 41, except that the bushing is solid and the bearing is split. Suitable for use with No. 20 and No. 26 hangers. Prices upon application.

Caldwell Patent Keyway Conveyor Coupling

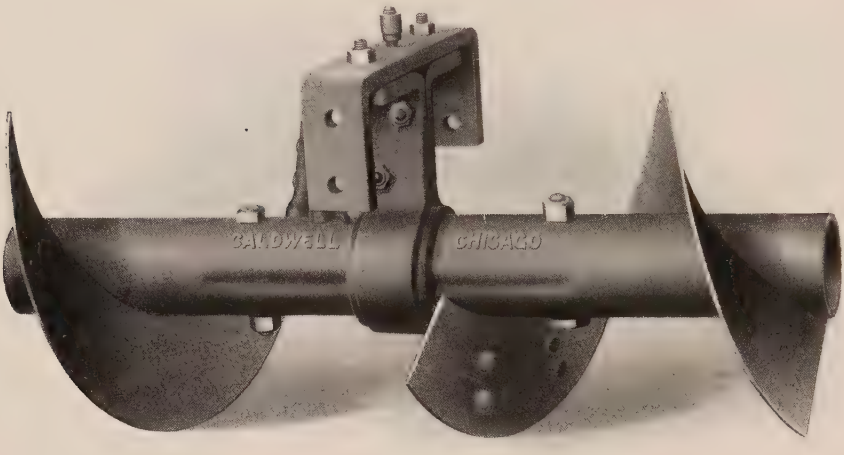


Fig 45045. (*Laceratore*)

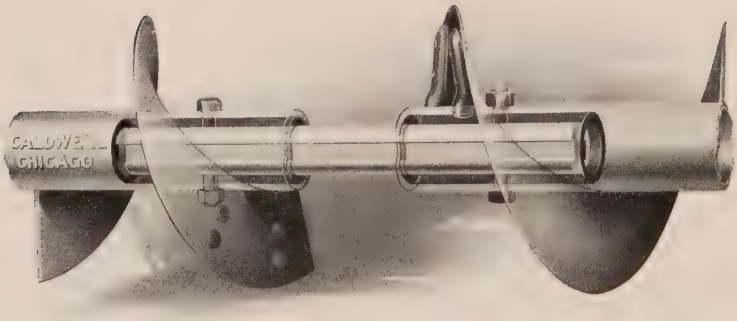


Fig. 45046. (*Laceratura*)

The Keyway Conveyor Coupling shown by the above illustrations is intended for use where the ordinary four bolt coupling is not satisfactory. The bearing surface is in effect the same as a feather-key fitted in a key seat and is much stronger and more durable than the bolts ordinarily used.

The bolts shown in the cut are only intended to prevent the coupling from moving endwise and are not intended to take any of the wear or strain.

Fig. 45046 shows the key seat running the full length of the coupling. This construction is used where a special sleeve bearing is employed, as with a hanger of style No. 25, page 56. If the ordinary babbitted hanger is used this part of the coupling is left round and the key seats are only cut where the coupling is inside the pipe.

This coupling is more expensive than the ordinary type and is furnished only upon special order, and at additional charge.

Standard Drive Ends

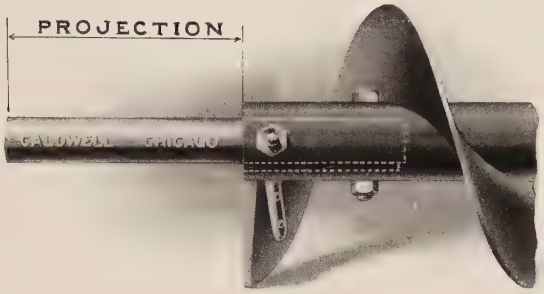


Fig. 45047. (*Laceravate*)

Drive ends, sometimes called gudgeons or projections, extend about six inches inside of conveyor shaft and project suitable distance to attach driving power and to give bearing in pillow block or box end.

Standard drive ends are the same diameter as the conveyor coupling.

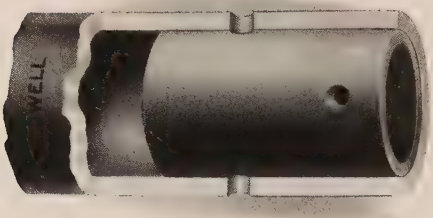
Using drive ends of greater diameter than our standard does not increase the strength of conveyor, because all couplings and the part of drive end inside of pipe are of the same diameter and strength.

Odd size drive ends, with projecting portion of different size from portion in conveyor, can be furnished if necessary at special prices.

Price List, Subject to Discount

Projection From Pipe, Inches	Code Word For Projection	DIAMETER AND CODE WORD FOR DIAMETER				
		1 Inch (Lexicon)	1½ Inches (Lexidia)	2 Inches (Lexovios)	2 7/16 Inches (Lexuvium)	3 Inches (Lezende)
6 in. and less	Lezioso	$1.00	$1.70	$ 2.70	$ 4.15	$ 6.15
8	Lezzino	1.10	1.90	3.00	4.70	7.00
10	Lezzona	1.20	2.10	3.35	5.20	7.75
12	Lezzume	1.25	2.30	3.75	5.75	8.55
14	Liculis	1.35	2.55	4.10	6.25	9.35
16	Liculum	1.45	2.75	4.45	6.80	10.15
18	Liagora	1.55	3.00	4.85	7.35	11.00
20	Liandum	1.65	3.20	5.20	7.90	11.80
22	Liaramos	1.75	3.40	5.55	8.40	12.60
24	Liardant	1.85	3.60	5.90	8.95	13.40
26	Liardeur	1.95	3.80	6.30	9.45	14.15
28	Liaseis	2.05	4.00	6.70	10.00	15.00
30	Liasform	2.20	4.25	7.10	10.65	15.90
32	Liasicas	2.30	4.50	7.45	11.15	16.65
34	Liasique	2.40	4.70	7.80	11.70	17.45
36	Liaskalk	2.50	4.90	8.15	12.20	18.25
42	Liassic	2.75	5.50	9.20	13.80	20.65
48	Liassiez	3.10	6.15	10.25	15.35	23.00

Collars for Conveyor Pipes



Internal Collar. Fig. 45048. (*Laceriez*)

External Collar. Fig. 45049. (*Laceriosas*)

These collars are not drilled, and while of approximately correct dimensions, they require more or less blacksmith work to properly attach them to the conveyor shafts. Price list on opposite page.

Drop Forged Flight Lugs

Rivet or Center Lug. Fig. 45050. (*Lacertosos*)

Screw or End Lug. Fig. 45051 (*Lacertorum*)

The end flights of conveyors are fastened to the collar ends by a heavy threaded forged steel lug (Fig. 45051), which is screwed into the thick collar and riveted to the end flight. Where the work is especially heavy, intermediate lugs may be used (Fig. 45050). These lugs pass through both walls of the hollow shaft and are riveted at one end, while the other end projecting above the pipe is riveted to the flight. Lugs No. 3, 4, 6, 24, 28, 32, 40 and 48 only have one rivet hole instead of two as shown in cut. Price list on the opposite page.

Bolts for Conveyor Couplings

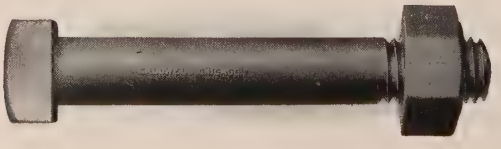


Fig. 45052. (*Lacerioso*)

Square head, hexagon nut and special length of thread. Price list on opposite page.

Collars, Lugs and Bolts for Helicoid Conveyor
Price List, Subject to Discount

Diameter of Conveyor, Inches	Size of Coupling, Inches	CODE WORD For Size	Internal Collars, Price Each	CENTER LUGS		END LUGS		BOLTS	
				Size	Price Each	Size	Price Each	Size, Inches	Price Each
3	¾	Liederboek	$0.50	....	....	3	$ .18	5/16x1¾	$ .05
4	1	Liederbuch	.50	24	$ .10	4	.20	⅜x2 1/16	.06
4 X	1	Liederheft	.50	24	.10	4	.20	⅜x2 1/16	.06
5	1	Liederhort	.50	24	.10	4	.20	⅜x2 1/16	.06
6	1½	Liedermund	.80	28	.15	6	.22	½x2¾	.08
6 X	1½	Liedertext	.80	28	.15	6	.22	½x2¾	.08
6 XX	1½	Liedjes	.80	28	.15	6	.22	½x2¾	.08
7	1½	Liefdadig	.80	28	.15	6	.22	½x2¾	.08
7 X	1 3/16	Liefde	.70	28	.15	6	.22	7/16x2½	.08
8	1½	Liefdeband	1.20	32	.20	8	.40	½x3	.08
9	1½	Liefdedaad	1.20	32	.20	9	.45	½x3	.08
9 Spcl.	2	Liefdegaaf	1.60	40	.30	8	.40	⅝x3⅝	.13
9 X	1½	Liefdegift	1.20	32	.20	9	.45	½x3	.08
9 XX	2	Liefdeloos	1.60	40	.30	8	.40	⅝x3⅝	.13
10	1½	Liefdetaal	1.20	32	.20	9	.45	½x3	.08
10 XX	2	Liefdevlam	1.60	40	.30	9	.45	⅝x3⅝	.13
12	2	Lieferbar	1.60	40	.30	12	.50	⅝x3⅝	.13
12 Spcl.	2 7/16	Liefern	2.00	40	.30	12	.50	⅝x4⅜	.14
12 X	2	Liefertest	1.60	40	.30	12	.50	⅝x3⅝	.13
12 XX	2 7/16	Lieferung	2.00	40	.30	12	.50	⅝x4⅜	.14
12 XXX	3	Lieferzeit	2.40	48	.40	12	.50	¾x5	.19
14	2 7/16	Liefgehad	2.00	40	.30	12	.50	⅝x4⅜	.14
14 XX	3	Liefhebben	2.40	48	.40	12	.50	¾x5	.19
16	3	Liefkoozen	2.40	48	.40	16	.60	¾x5	.19
16 XXX	3	Lieflokken	6.00	48	.40	16	.60	¾x5½	.20

Collars, Lugs and Bolts for Sectional Flight Conveyor
Price List, Subject to Discount

Diameter of Conveyor, Inches	Size of Coupling, Inches	CODE WORD For Size	External Collars, Price Each	CENTER LUGS		END LUGS		BOLTS	
				Size	Price Each	Size	Price Each	Size, Inches	Price Each
3	¾	Lieftallig	$0.50	....	....	3	$ .18	5/16x1¾	$0.05
4	1	Liegeant	.50	24	$ .10	4	.20	⅜x2 1/16	.06
5	1	Liegeman	.50	28	.15	4	.20	⅜x2 1/16	.06
6	1½	Liegen	1.00	28	.15	6	.22	½x3	.08
7	1½	Lienibus	1.00	28	.15	6	.22	½x3	.08
8	1½	Lienici	1.00	28	.15	8	.40	½x3	.08
9 on 1½	1½	Lienicorum	1.00	32	.20	9	.45	½x3	.08
9 on 2	2	Lienicos	1.20	32	.20	8	.40	⅝x3⅝	.13
10 on 1½	1½	Lienicum	1.00	32	.20	9	.45	½x3	.08
10 on 2	2	Lienique	1.20	32	.20	9	.45	⅝x3⅝	.13
12 on 2	2	Lienosam	1.20	32A	.25	12	.50	⅝x3⅝	.13
12 on 3	3	Lienosarum	2.00	40A	.35	12	.50	¾x5	.19
14 on 2	2	Lienosis	1.20	32A	.25	12	.50	⅝x3⅝	.13
14 on 3	3	Lienterico	2.00	40A	.35	12	.50	¾x5	.19
16 on 2	2	Lienterie	1.20	32A	.25	16	.60	⅝x3⅝	.13
16 on 3	3	Lienum	2.00	40A	.35	16	.60	¾x5	.19
18 on 3	3	Lienzo	2.00	40A	.35	16	.60	¾x5	.19
18 Heavy	3	Lillende	2.00	48A	.50	16	.60	¾x5	.19

Use code word for size followed by code word under the cut on opposite page showing style wanted.

Flights for Repairing Caldwell Helicoid Conveyor

Fig. 45053. (*Lacerna*)

Owing to the use of our internal collar, the repairing of our Helicoid Conveyor is much simpler and more easily done than with any other style of conveyor.

We supply sections of the flights of any length that may be necessary to replace the broken portion of the conveyor. These sections can readily be slipped over the shaft and riveted to the flights that are not damaged, and the lugs being fastened, the work is complete.

In ordering, always specify whether right-hand or left-hand flights are wanted.

Where much repairing is to be done, the Special Punch shown on page 51 will be found convenient, either for Helicoid or Sectional Flight Conveyor.

Price List, Subject to Discount

Diam. of Conveyor, Inches	Price per Foot	CODE WORD		Outside Diameter of Pipe, Inches	Approximate Pitch, Inches
		Right Hand	Left Hand		
3 Std.	$0.40	Aduella	Aduggio	1 5/16	3¼
4 Std.	.50	Abobance	Abolir	1⅝	4½
4 x	.80	Dracique	Dracmas	1⅝	4½
5 Std.	.80	Adujais	Adujaron	1⅝	6
6 Std.	.80	Abode	Abolisher	2⅛	6½
6 x	1.00	Draco	Drancae	2⅛	6½
6 xx	1.50	Draffish	Drangst	2⅛	6½
7 Std.	1.00	Adulabam	Adulador	2⅛	6½
7 x	1.50	Adulant	Adulantis	1⅞	6
8 Std.	1.00	Adularan	Adularia	2⅜	9½
9 Std.	1.00	Abodement	Abolition	2⅜	9½
9 Spl.	1.00	Lacernarum	Lacernatam	2⅞	9½
9 x	2.00	Eragao	Drangvoll	2⅜	9½
9 xx	2.00	Dragiste	Drankjes	2⅞	9½
10 Std.	1.25	Adulasse	Adulatrix	2⅜	9½
10 xx	2.25	Adullam	Adultivo	2⅞	9½
12 Std.	1.40	Aboding	Abolsado	2⅞	12
12 Spl.	1.40	Lageador	Lagedo	3½	12
12 x	2.50	Draglia	Drankvat	2⅞	12
12 xx	2.50	Drahem	Drankwet	3½	12
12 xxx	3.50	Draht	Drapais	4	12
14 Std.	1.75	Acquire	Acutulos	3½	14½
14 xx	3.25	Adultos	Adunat	4	14½
16 Std.	2.50	Aboiment	Abomasum	4	16½
16 xxx	5.00	Dralarij	Drapons	4½	16½

Flights for Repairing Caldwell Sectional Flight Conveyor

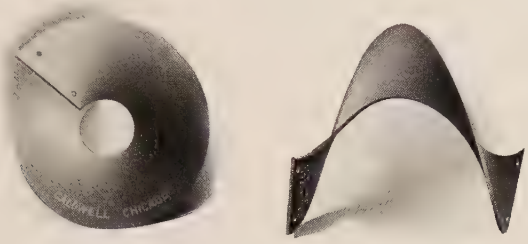


Fig. 45054. (*Lacernatis*)

Price List, Subject to Discount

Diameter of Conveyor, Inches	THICKNESS OF FLIGHTS, INCHES							Approximate Pitch, Inches	Outside Diameter of Pipe, Inches
	Standard	1/8	3/16	1/4	5/16	3/8	1/2		
	Code Word for Thickness								
	(Alpes)	(Aboque)	(Aboral)	(Abosino)	(Alpine)	(Abotis)	(Abotoado)		
3	$0.25	$0.50	....	.. ....	....	....	.....	3	1 1/16
4	.30	.50	$ 0.60	$ 0.80	....	....	.....	4½	1 5/16
5	.45	.70	....	.....	....	....	.....	6	1 7/8
6	.45	.70	.85	1.05	$ 1.30	$ 1.75	.....	6	1 7/8
7	.60	.90	1.15	1.45	1.75	2.25	.....	6	1 7/8
8	.85	1.30	1.60	2.00	2.50	3.00	.....	9½	1 7/8
9	.95	1.40	1.70	2.15	3.00	3.60	$ 5.50	9½	1 7/8 or 2 3/8
10	1.25	1.70	2.00	2.60	3.60	4.25	6.50	9½	1 7/8 or 2 3/8
12	1.80	2.15	2.70	3.30	4.50	5.50	8.50	12	2 3/8—2 7/8 or 3½
14	....	3.00	3.85	4.70	6.00	7.00	11.00	12	2 3/8—2 7/8 or 3½
16	....	3.70	4.80	6.00	7.50	9.00	13.50	12	2 3/8—2 7/8 or 3½
16	....	3.70	4.80	6.00	7.50	9.00	13.50	16	3½
18	....	4.75	6.15	7.50	9.50	11.50	17.00	16	3½
20	....	.....	8.00	10.00	12.50	15.00	22.00	16	3½

CODE WORD FOR DIAMETER

Diameter of Conveyor, Inches	Right Hand	Left Hand
3	Afesia	Affavel
4	Abominate	Abortment
5	Affagotta	Affaire
6	Abonder	Abound
7	Affaito	Affalbo
8	Affamer	Affandos
9	Abordage	Aboundeth
10	Affango	Affanure
12	Aborigines	Aboundedly
14	Affaris	Affatam
*16	Abortion	Aboutir
†16	Abortive	Abovedar
18	Abotocar	Abotono
20	Affatasse	Affautos

*12 in. Pitch.
†16 in. Pitch.

Prices above are for each flight, the space covered by the flights being approximately the same as the pitch of the conveyor.

In telegraphing, use code words, one word indicating the thickness of the flight, and the other the diameter of the conveyor and whether right, or left, hand screw.

In ordering flights, be particular to state the pitch of screw, inside or outside diameter of pipe, and whether right or left hand.

The above prices include necessary rivets and lug fastenings.

We can furnish flights for repairs with different pitch and size of hole than those specified above; also flights of any thickness of metal.

In ordering flights, in case any are wanted for the end of the section of conveyor, it should be so specified, as such end flights have proper space cut out to go over the end collar on the pipe.

Manganese Steel End Flight Reinforcement

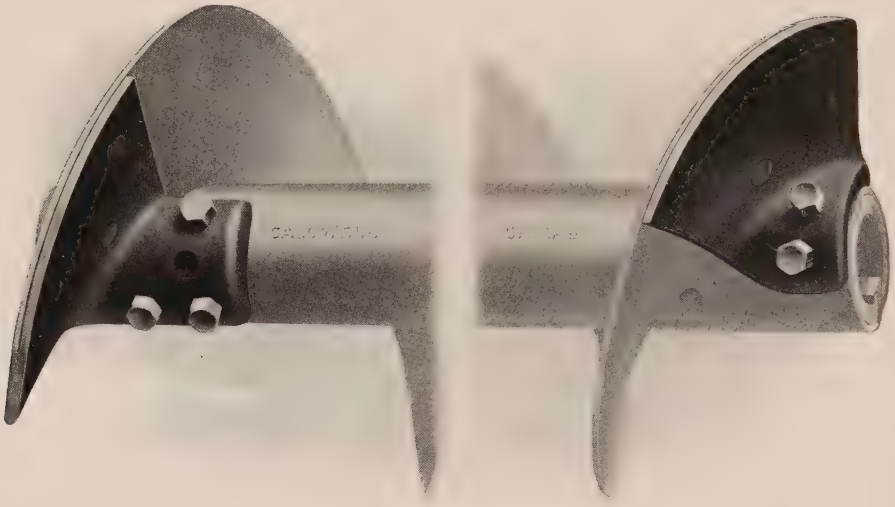


Fig. 45055. (*Likeurkraf*)

In handling gritty material such as stone, cement, etc., the end flight, next to the hanger, is the first to wear out. The manganese steel end flight reinforcement shown above protects the end flight and increases the life of the entire conveyor. The wear is entirely on the manganese steel piece and the conveyor end flight is not exposed to wear.

As there is considerable fitting required to attach these reinforcements, the price list below includes fitting to the conveyor. The reinforcement can be used either with the ordinary four bolt coupling or with the special key-way coupling shown in the cut.

Price List, Subject to Discount

Size, to Fit Helicoid Conveyor Inches	Inside Diameter of Conveyor Pipe, Inches	Price Each, Including Fitting Either Outside or Inside	CODE WORD for Outside Reinforcement	CODE WORD for Inside Reinforcement
9 X	2	$ 9.00	Lichtloch	Lichtpunkt
12 X	2½	16.00	Lichtlos	Lichtputze
12 XX	3	16.00	Lichtluft	Lichtquell
12 XXX	3½	16.00	Lichtmesse	Lichtrand
14 Reg.	3	27.00	Lichtmot	Lichtraum
16 Reg.	3½	37.00	Lichtnebel	Lichtscheu
16 XXX	4	37.00	Lichtnelke	Lichtseite

Special Punch for Repairing Conveyor

Fig. 45056. (*Aboma*)

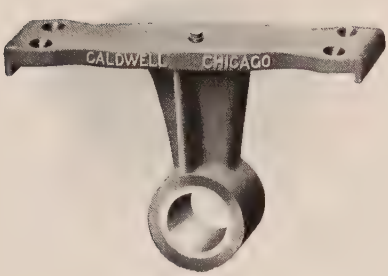
While no special apparatus is required in repairing Helicoid Conveyor, the general practice being to punch or drill the necessary holes in the flight by the ordinary punches or drills at hand, we recommend the above device as convenient where a considerable quantity of conveyor is to be repaired. The punch can be used not only for repairing conveyor, but for any other purpose where a hand punch is wanted. The body of the punch is made of cast steel, and will stand any strain likely to be put upon it.

Price List, Subject to Discount

Size	Price	CODE WORD	Suitable for Conveyors	Depth of Throat to Center of Punch, Inches	Weight, Pounds
1	$25.00	Aboon	4 in. to 9 in.	2	22
2	31.00	Abopus	12 in. to 16 in.	3¾	34

Price includes two punches of sizes required.

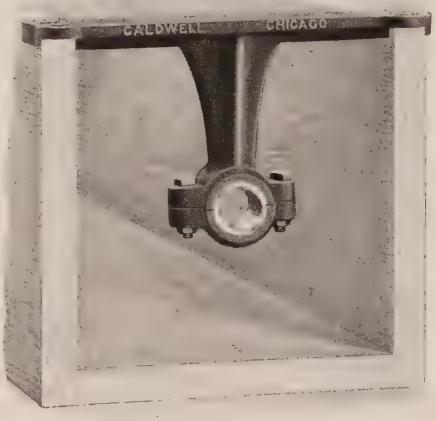
Conveyor Hangers



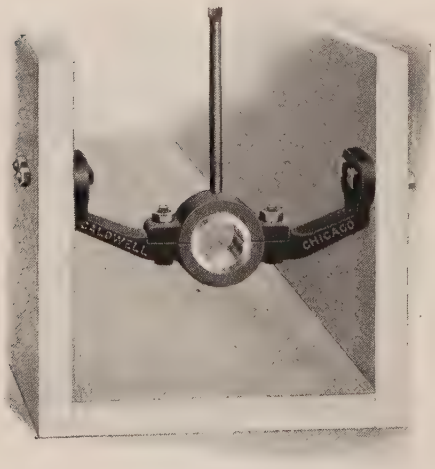
No. 13 (Solid Eye)
(*Likewake*)

Hanger No. 13, with solid eye, is furnished regularly in sizes 3 inch to 7 inch inclusive when No. 13 hangers are specified. The bearing is babbitted and an oil hole provided from the top of the hanger Price list on page 60.

Hanger No. 13, with bolted cap, is regularly furnished when No. 13 hanger is specified with conveyor 8 inch in diameter and larger. It can also be furnished in the 4 inch and 6 inch sizes at a slight additional charge. The bearing is split and babbitted and an oil hole is provided from the top of the hanger. Price list on page 60.



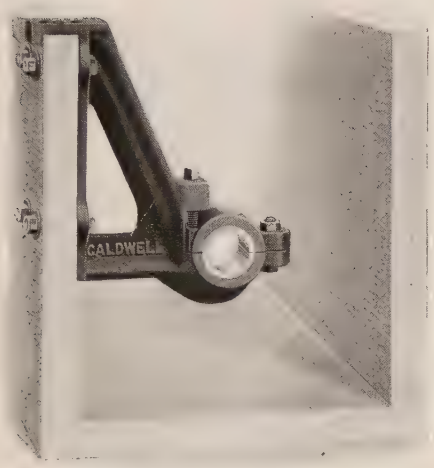
No. 13 Bolted Cap
(*Abjuring*)



No. 14. (*Ablactate*)

Hanger No. 14 has babbitted bearings with a removable cap. With this bearing the conveyor may be removed from the box without removing the hanger. Price list on page 60.

Conveyor Hangers



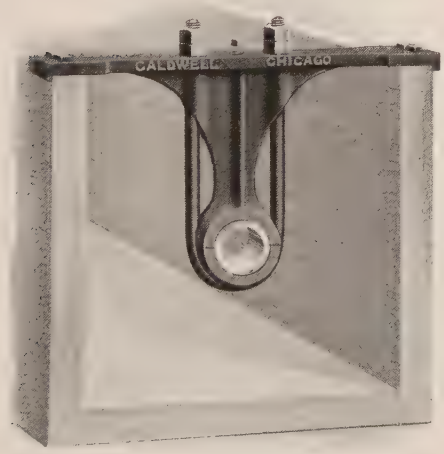
No. 15. (*Ablandar*)

Hanger No. 15 fastens to one side of the box only and permits the removal of the conveyor without removing the hanger. The bearings are babbitted, and oil holes are provided. This hanger should be mounted on the side opposite to that on which the material is carried. Price list on page 60. Made only in a few sizes.

The body of Hanger No. 16 is made of wrought iron, the bearings being generally of cast iron chilled. Where gritty material is to be handled and the hanger cannot be lubricated, this hanger will resist wear better than any other form of bearing.

Price list on page 60.

No. 16. (*Ablation*)



No. 17. (*Ablaqueate*)

Hanger No. 17 has a steel "U" bolt supporting the bearing. The bearing is split and babbitted. An oil hole is provided from the top of the hanger to the bearing. Price list on page 60.

Conveyor Hangers—Continued

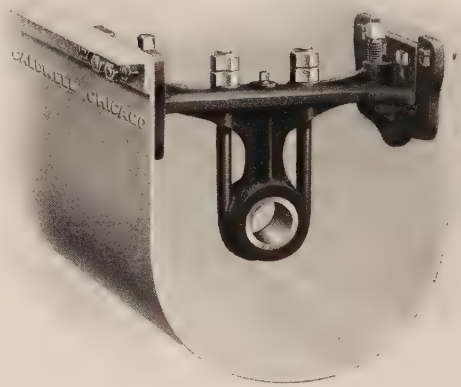
No. 18. (*Ablative*)
For use in Steel Boxes

Conveyor Hanger No. 18 is designed especially for use with steel box and is very rigid, acting as a brace to the sides of the box. These hangers are ordinarily furnished with babbitted bearings, but can be furnished with chilled white iron bearings if desired.

Price list on page 60.

This hanger is similar in design to the No. 18, but provision is made for adjusting the hanger vertically by means of set screws, thus assisting in lining up the conveyor and in placing it as close to the bottom of the box as is thought necessary.

Price list on page 60.

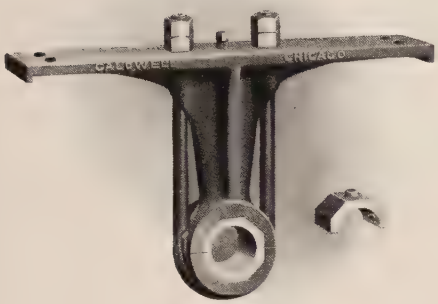


No. 19. (*Ablator*)

No. 20. (*Ablegate*)

Hanger No. 20 is made of two steel strips bolted together. By removing the bolts, the hanger can be separated and taken from the box without moving the conveyor. Furnished with either a single bushing or with a bushing and sleeve, as shown in cut. Price list on page 60.

Conveyor Hangers—Continued



No. 23. (*Ablaze*)

Hanger No. 23 is similar to our No. 17 Hanger, the difference being that the bearing has removable bushings, the outside being octagon form to prevent turning. The advantage of that is that if the bushing wears out, repairs can be kept on hand and the bushing replaced without difficulty.

Price list on page 60.

Hanger No. 24 has wrought steel frame with either babbitted or chilled white iron bearing. This type is peculiarly adapted for use in cement plants.

Price list on page 60.

No. 24. (*Adagiato*)

No. 24-A. (*Likhoul*)

Hanger No. 24-A is similar to Hanger No. 24, but with a slightly different style of bearing, and with the steel frame arranged to bolt to the side of the wood or steel box.

Prices upon application.

Conveyor Hangers—Continued

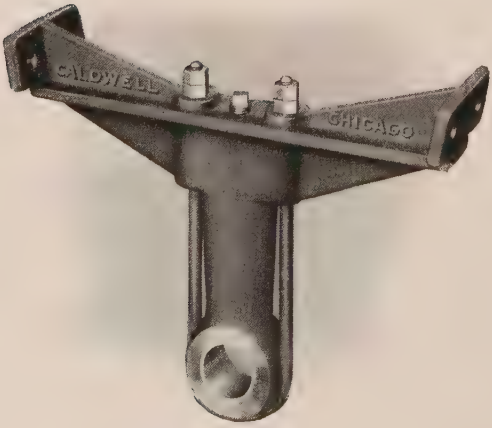
No. 25. (*Acaire*)
Prices upon application.

Hanger No. 25 is a modification of our No. 18, and is for use in wooden box. As the cut above indicates, the bearing can be a removable cast-iron bearing with feather projecting into a keyseat in the coupling shaft, but any type of bearing can be supplied with this style of hanger.

Hanger No. 26 is generally used with removable cast-iron bearings with feather projecting into keyseat in coupling shaft. The hanger frame can be removed from the trough without taking out or moving the coupling shaft.

Prices upon application.

No. 26. (*Lacertus*)



No. 32. (*Lilienarm*)

Hanger No. 32 is similar in construction to No. 18, but is of extra heavy design, and for use with Flared Box, for sugar house conveyors.

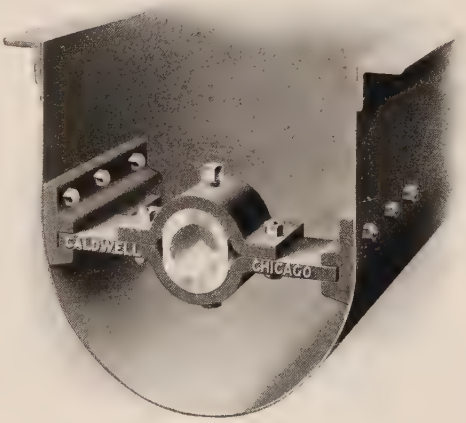
Prices upon application.

Conveyor Hangers—Continued

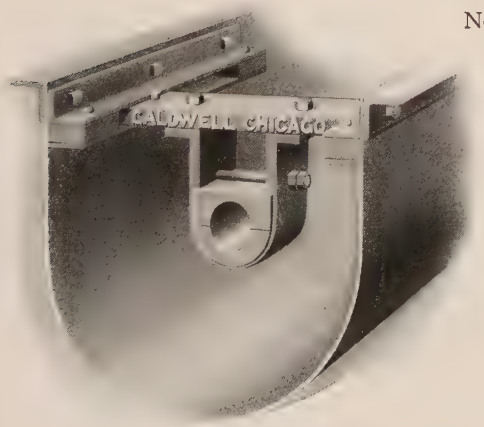
No. 21. (*Ablemar*)

Hanger No. 21 is a compensating hanger, allowing for expansion and contraction of the conveyor in handling hot material. In long lines of conveyor this expansion and contraction may cause the conveyor to bind with hangers of the regular type. This hanger may be furnished either with chilled cast iron bushing, brass or babbitted bearings. Prices upon application.

Hanger No. 27 is a different type of compensating hanger. Furnished with chilled iron, brass or babbitted bearings. Prices upon application.



No. 27. (*Lacessebas*)

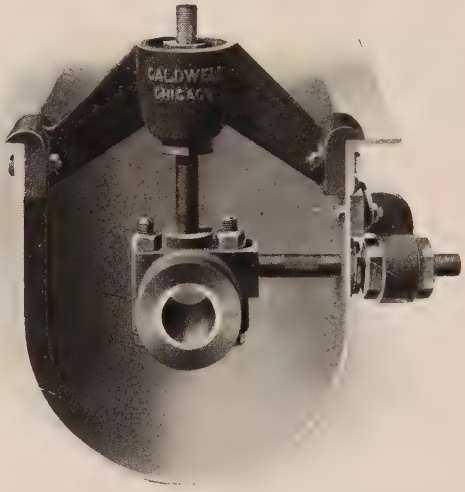


No. 28. (*Lacessendo*)

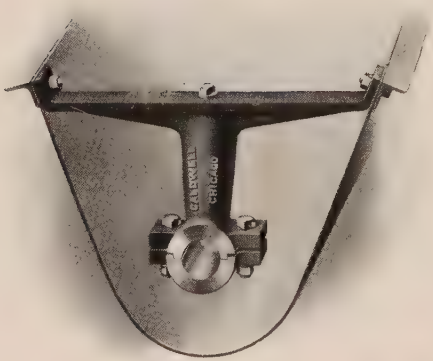
Hanger No. 28 is also a compensating hanger. Furnished with chilled iron, brass or babbitted bearings. Prices upon application.

Conveyor Hangers—Continued

Hanger No. 29 is of the type used in sugar house work. The bearing is adjustable both horizontally and vertically. This hanger may also be furnished for a flared box. Prices upon application.



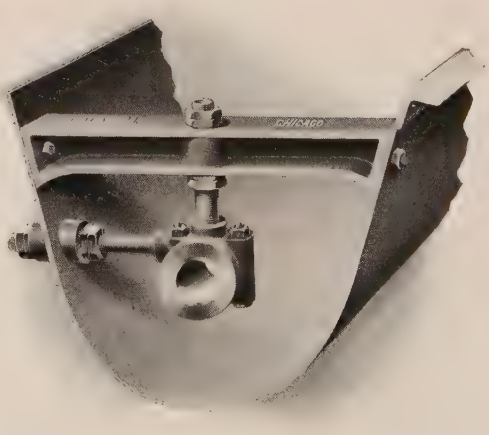
No. 29. (*Lacesset*)



No. 30. (*Lacessetis*)

Hanger No. 30 is of a type similar to No. 13, but of special heavy construction and adapted for a flared box as used in sugar house work. The bearings are ordinarily babbitted and oil holes are provided. Prices upon application.

Hanger No. 31 is similar in type to Hanger No. 29. Adjustable both horizontally and vertically. The bearings are babbitted. Prices upon application.



No. 31. (*Lacessitor*)

Bearings for Conveyor Hangers

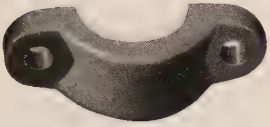


Fig. 45057. (*Lanciotta*)
Babbitted

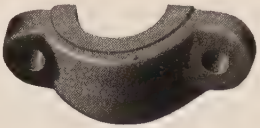


Fig. 45058. (*Lancival*)
Chilled

Caps for No. 13 Hangers

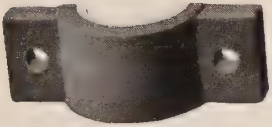


Fig. 45059. (*Lancinha*)

Babbitted Cap for No. 14 Hanger

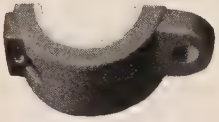


Fig. 45060. (*Lancions*)

Babbitted Cap for No. 15 Hanger

Fig. 45061. (*Lancoir*)
Babbitted

Fig. 45062. (*Lancretie*)
Chilled

Caps for Nos. 17, 18, 19 Hangers

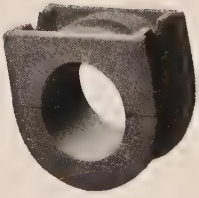


Fig. 45063. (*Lancinant*)
Split Chilled Bearing
For No. 16 Hanger

Fig. 45064. (*Lancinetis*)
Split Bearing
For No. 20 Hanger
Made both Chilled and
of Babbitt

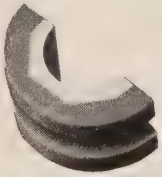


Fig. 45065. (*Lancrenon*)
Cap with Filler

Fig. 45066. (*Lancoa*)
Filler

Cap and Filler for No. 23 Hanger

Price list on page 60.

Hangers for Caldwell Conveyor

Descriptions and illustrations given on pages 52 to 58.
For dimensions see pages 61 to 66.
For Oil Impregnated Wood Bearings and Caps see page 40.
Price List of "U" Bolts for Hangers on page 66.

Price List, Subject to Discount

CODE WORD Size of Hanger	Diameter Conveyor, In.	Diameter Coupling, In.	Width of Bearing, In.	No. 13 Solid Eye	No. 13 Bolted Cap	No. 14	No. 15	No. 16	No. 17	No. 18	No. 19	No. *20	No. 23	No. 24
Achetoir	3	¾	1½	$1.25	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Abreyer	4	1	1½	1.50	$2.00	.....	.....	$6.00	$2.25	$2.25	.....	.....	.....	.....
Achevait	5	1	1½	1.75	.....	.....	.....	.....	2.50	.....	.....	.....	.....	.....
Ampotis	5	1½	2	1.75	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Abridge	6	1½	2	1.75	2.25	$2.50	$2.75	8.00	2.75	2.75	$3.50	$8.00	$3.50	$8.50
Acianthe	7	1½	2	2.00	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Abridgment	8	1½	2	.....	3.00	3.50	.....	8.50	3.50	3.50	4.25	8.50	4.25	9.00
Abriter	9	1½	2	.....	3.00	3.50	4.75	8.50	3.50	3.50	4.25	8.50	4.25	9.00
Abroach	9	2	2	.....	3.50	4.00	.....	9.00	4.00	4.00	4.75	9.00	4.75	10.00
Abrochar	10	1½	2	.....	3.75	4.25	.....	9.00	4.25	4.25	5.00	9.00	5.00	10.50
Abrogate	10	2	2	.....	4.25	4.75	.....	9.50	4.75	4.75	5.50	9.50	5.50	11.00
Abrogation	12	2	2	.....	4.50	5.00	6.00	10.00	5.00	5.00	6.00	10.00	5.75	12.00
Abromado	12	2 7/16	3	.....	6.00	6.50	.....	10.50	6.50	6.50	8.00	10.50	7.25	13.00
Abring	12	3	3	.....	7.50	8.50	.....	11.00	8.50	8.50	10.00	11.00	9.00	14.00
Abrupt	14	2	2	.....	6.00	6.50	.....	12.00	6.50	6.50	8.00	12.00	7.50	13.00
Abruption	14	2 7/16	3	.....	7.50	8.00	.....	12.50	8.00	8.00	10.00	12.50	9.00	15.00
Limames	14	3	3	.....	9.00	10.00	.....	13.00	10.00	10.00	12.00	13.00	11.00	17.00
Abruptly	16	2	2	.....	7.00	7.50	.....	12.50	7.50	7.50	10.00	12.50	9.00	15.00
Abruptness	16	3	3	.....	10.50	11.50	12.50	15.00	11.50	11.50	14.00	15.00	13.00	20.00
Abscess	18	3	3	.....	11.50	12.50	.....	17.00	12.50	12.50	16.00	17.00	15.00	22.00
Limasen	20	3	3	.....	14.00	15.00	.....	20.00	15.00	15.00	18.00	20.00	17.00	25.00

*Price of No. 20 Hanger includes single sleeve only. Double Sleeve Bearing furnished at additional charge.

In telegraphing use code word for style given under cut of hanger wanted and follow with code word for size in list above.

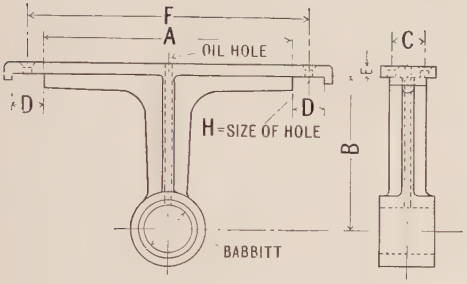
Bearings and Caps for Hangers

Price List, Subject to Discount

Diameter of Couplings, Inches	Hanger Caps		Chilled Boxes for Hangers Nos. 16 and 20		Caps	Fillers
	Babbitted for Hangers Nos. 13, 14, 15, 17, 18, and 19	Chilled for Hangers Nos. 13, 17, 18, and 19	Price per Pair		Cast Iron for No 23 Hanger Without Fillers	Babbitt for No. 23 Hanger
	Price Each	Price Each	No. 16	No. 20	Price Each	Price per Pair
1	$0.50	.....	$1.25	.....	.....	.....
1½	.75	$0.75	1.75	$1.50	$0.40	$0.85
2	1.00	1.00	2.50	2.00	.55	1.00
2 7/16	1.50	1.50	3.50	3.00	.80	1.70
3	2.00	2.00	4.50	4.00	1.00	2.20

In telegraphing use code word for item wanted as given under cut on page 59, followed by code word for style of hanger and code word for size from hanger list above.

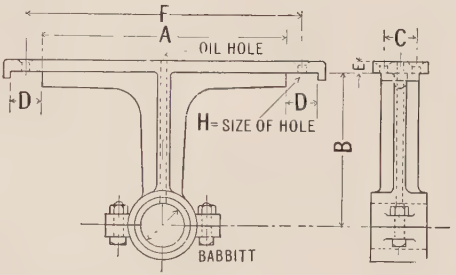
No. 13 Hangers for Wood Box



(Solid Eye)

No. 13 Hangers for Conveyor 3 to 7 inches diameter are made of the solid eye pattern — not with split bearing.

No. 13 Hangers for Conveyor 8 inches in diameter and larger are made of the bolted cap type—with split bearing.



(Bolted Cap)

Table of Dimensions

Dia. of Conveyor, Inches	Bearing Bore, Inches	Bearing Length, Inches	A Inches	B Inches	C Inches	D Inches	E Inches	F Inches	H Inches
3	3/4	1 1/2	4	2 5/8	3/4	7/8	5/16	5	9/32
4	1	1 1/2	5	3	1	3/4	7/16	5 3/4	9/32
5	1	1 1/2	6	3 3/4	1	7/8	7/16	6 3/4	9/32
5	1 1/2	2	6	3 1/2	1	3/4	1/2	6 3/4	9/32
6	1 1/2	2	7	4	1 1/4	3/4	7/16	7 3/4	9/32
7	1 1/2	2	8	4 1/2	1 3/8	1	1/2	9	9/32
8	1 1/2	2	9	5	1 3/8	1 1/4	1/2	10 1/4	9/32
9	1 1/2	2	10	5 3/4	1 1/2	1 1/2	1/2	11 1/2	9/32
9	2	2	10	5 7/8	1 3/4	1 1/2	1/2	11 1/2	9/32
10	1 1/2	2	11	7	1 3/4	1 1/2	1/2	12 1/2	9/32
10	2	2	11	7	1 3/4	1 1/2	1/2	12 1/2	9/32
12	2	2	13	8 1/2	1 3/4	1 3/4	9/16	14 3/4	9/32
12	2 7/16	3	13	8 1/2	1 3/4	1 3/4	3/4	14 3/4	5/16
12	3	3	13	8 1/2	1 7/8	1 1/2	5/8	14 3/4	5/16
14	2	2	15	9 5/8	1 3/4	2	5/8	17	5/16
14	2 7/16	3	15	9 1/4	2 3/4	2	5/8	17	5/16
14	3	3	15	9 1/8	2 3/4	2	5/8	17	5/16
16	2	2	17	10 1/2	3	2	11/16	18 3/4	5/16
16	3	3	17	10 1/2	3 1/4	2	5/8	18 3/4	5/16
18	3	3	19	11 3/4	3 1/4	2	13/16	20 3/4	13/32

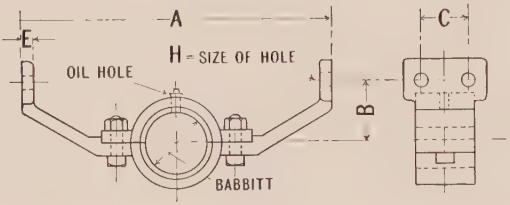


Table of Dimensions

No. 14 Hangers for Wood or Steel Box

Dia. of Conveyor, Inches	Bearing Bore, Inches	Bearing Length, Inches	A Inches	B Inches	C Inches	E Inches	H Inches
4	1	1½	5	¾	1⅜	5/16	⅜
6	1½	2	7	2	1⅜	7/16	⅜
8	1½	2	9	1½	2¼	½	7/16
9	1½	2	10	2	2¼	½	7/16
9	2	2	10	2	2¼	½	9/16
10	1½	2	11	2	2¼	9/16	7/16
10	2	2	11	1¾	2¼	9/16	9/16
12	2	2	13	2½	2¼	9/16	9/16
12	3	3	13	2½	2¼	¾	11/16
14	2	2	15	3¼	2⅜	¾	9/16
14	2 7/16	3	15	4	3	¾	11/16
16	2	2	17	3½	2⅜	5/8	11/16
16	3	3	17	3⅞	2⅜	¾	11/16
18	3	3	19	3¾	2½	¾	9/16
20	3	3	21	3⅞	2⅞	1¼	11/16

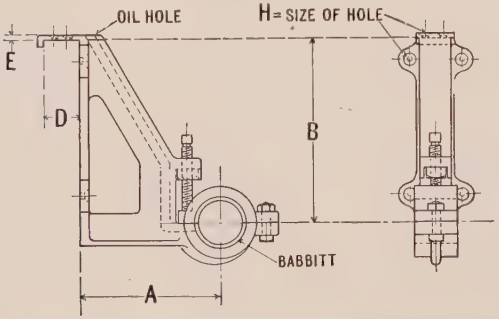


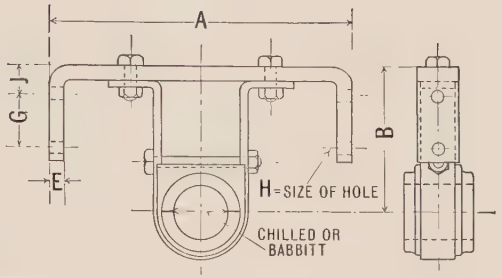
Table of Dimensions

No. 15 Hangers for Wood Box

Dia. of Conveyor, Inches	Bearing Bore, Inches	Bearing Length, Inches	A Inches	B Inches	D Inches	E Inches	H Inches
6	1½	2	3½	4	¾	5/16	9/32
9	1½	2	5	5⅜	1½	5/16	9/32
9	2	2	5	5⅜	1½	5/16	9/32
10	1½	2	5½	7	1½	5/16	9/32
12	2	2	6½	8½	1¾	5/16	9/32
12	2 7/16	3	6½	8½	1¾	⅜	5/16
14	2	2	7½	9¼	1¾	⅜	5/16
14	2 7/16	3	7½	9¼	1¾	⅜	5/16
16	2	2	8½	10⅞	1¾	7/16	5/16
16	3	3	8½	10⅞	1¾	7/16	5/16

Table of Dimensions

No. 16 Hangers for Wood or Steel Box

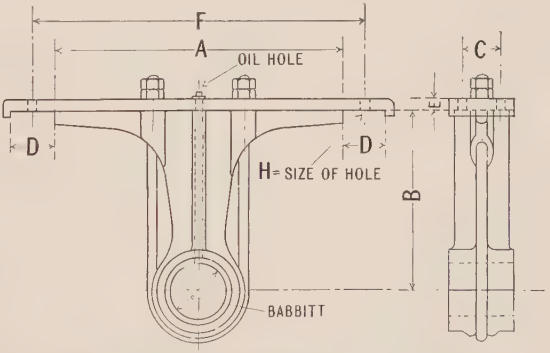


Dia. of Conveyor, Inches	Bearing Bore, Inches	Bearing Length, Inches	A Inches	B Inches	E Inches	G Inches	H Inches	J Inches
4	1	1½	5	2¾	¼	⅞	9/32	½
6	1½	2	7	3½	5/16	1⅛	11/32	⅝
8	1½	2	9	4¾	⅜	1¼	13/32	¾
9	1½	2	10	5½	⅜	1½	13/32	1
9	2	2	10	5½	½	1½	13/32	1
10	1½	2	11	5½	½	1¾	17/32	1⅛
10	2	2	11	5½	½	1¾	17/32	1⅛
12	2	2	13	6¼	½	2¼	17/32	1¼
12	2 7/16	3	13	6¼	⅝	2¼	17/32	1¼
12	3	3	13	6¼	⅝	2¼	17/32	1¼
14	2 7/16	3	15	7¼	⅝	2½	21/32	1⅜
16	2	2	17	9	¾	3	21/32	1½
16	3	3	17	9	¾	3	21/32	1½

Table of Dimensions

No. 17 Hangers for Wood Box

Dimensions of No. 23 Hangers are the same as for No. 17; No. 23 Hangers have removable octagonal bushings.



Conveyor, Inches	Bearing Bore, Inches	Bearing Length, Inches	A Inches	B Inches	C Inches	D Inches	E Inches	F Inches	H Inches
4	1	1½	5	3¼	1	...	¼	5¾	9/32
5	1	1½	6	3¾	1	...	¼	6¾	9/32
6	1½	2	7	4⅛	1¼	¾	5/16	7¾	9/32
8	1½	2	9	5½	1¾	1½	⅜	10½	7/16
9	1½	2	10	5¾	1¾	1½	7/16	11½	7/16
9	2	2	10	5⅞	1¾	1½	7/16	11	7/16
10	1½	2	11	7⅛	2	1½	7/16	12½	7/16
10	2	2	11	7⅛	1⅝	1½	½	12½	9/16
12	2	2	13	8⅝	1⅞	1¾	½	15	7/16
12	2 7/16	3	13	8⅝	1¾	1¾	½	15	7/16
12	3	3	13	8⅝	1¾	1¾	9/16	15½	7/16
14	2 7/16	3	15	9¼	1¾	1½	½	17	7/16
16	2	2	17	10½	1¾	1⅝	½	19	7/16
16	3	3	17	10½	2½	1⅝	½	19	7/16
18	3	3	19	12	2½	1⅝	9/16	21	9/16

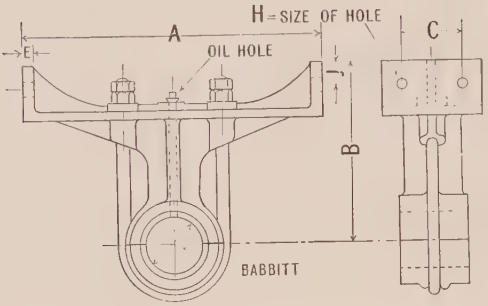


Table of Dimensions

No. 18 Hangers for Wood or Steel Box

Dia. of Conveyor Inches	Bearing Bore, Inches	Bearing Length, Inches	A Inches	B Inches	C Inches	E Inches	H Inches	J Inches
4	1	1½	5	3½	1¾	¼	7/16	5/8
5	1	1½	6	4⅛	2	¼	7/16	5/8
6	1½	2	7	4⅜	1⅞	¼	7/16	¾
8	1½	2	9	5¾	2½	5/16	7/16	5/8
9	1½	2	10	6	2⅝	5/16	7/16	5/8
9	2	2	10	6	2⅝	5/16	7/16	5/8
10	1½	2	11	6⅜	2⅝	5/16	9/16	¾
10	2	2	11	6⅜	2⅝	5/16	9/16	¾
12	2	2	13	7⅝	2⅝	5/16	9/16	1
12	2 7/16	3	13	7⅝	2⅝	7/16	9/16	1
12	3	3	13	7⅝	2⅝	½	9/16	1
14	2	2	15	9	2¾	½	11/16	⅞
14	2 7/16	3	15	9	2¾	½	11/16	⅞
16	3	3	17	10⅝	2¾	9/16	11/16	1
18	3	3	19	12	3	¾	11/16	1¼

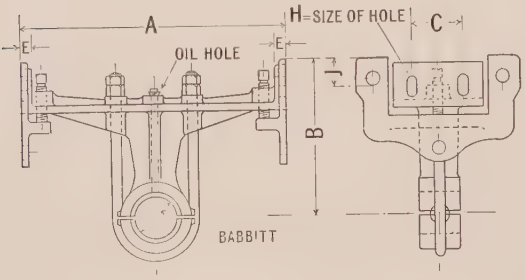


Table of Dimensions

No. 19 Hangers for Steel Box

Dia. of Conveyor, Inches	Bearing Bore, Inches	Bearing Length, Inches	A Inches	B Inches	C Inches	E Inches	H Inches	J Inches
6	1½	2	7	4¾	1½	5/16	½	1¼
8	1½	2	9	6⅛	2	5/16	½	1⅛
9	1½	2	10	6⅜	2⅛	5/16	½	1¼
9	2	2	10	6⅜	2⅛	5/16	½	1¼
10	1½	2	11	6⅝	2½	3/8	½	1⅛
12	2	2	13	8	2½	9/16	½	1 7/16
12	2 7/16	3	13	8	2½	9/16	½	1 7/16
16	2	2	17	10⅞	2⅝	9/16	5/8	1⅛
16	3	3	17	10⅞	2⅝	9/16	5/8	1⅛

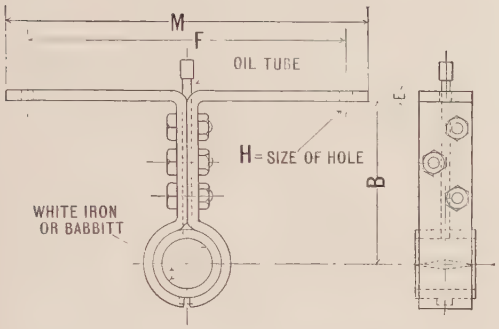


Table of Dimensions

No. 20 Hangers for Wood, Steel or Cement Boxes

Dia. of Conveyor, Inches	Bearing Bore, Inches	Bearing Length, Inches	B Inches for Steel Box	B Inches for Wood Box	E Inches	F Inches for Steel Box	F Inches for Wood Box	H Inches	M Inches for Steel Box	M Inches for Wood Box
4	1	1½	3⅝	3¼	¼	6¼	5¾	7/16	7¼	6¾
6	1½	2	4½	4⅛	5/16	8½	7¾	9/16	9¾	8¾
8	1½	2	5⅞	5⅜	⅜	10¾	10¼	9/16	12½	11¾
9	1½	2	6⅛	6⅛	⅜	11¾	11¼	9/16	13½	12¾
9	2	2	6⅛	6	½	11¾	11¼	9/16	13½	12¾
10	1½	2	6⅜	6¾	½	12¾	12¼	9/16	14½	13¾
12	2	2	7¾	8¾	½	15½	14¾	11/16	17½	16½
12	2 7/16	3	7¾	8¾	½	15½	14¾	11/16	17½	16½
12	3	3	7¾	8¾	½	15½	14¾	11/16	17½	16½
14	2 7/16	3	9¼	9½	½	17½	16¾	11/16	19½	18½
16	2	2	10⅝	10⅝	⅝	19½	18¾	11/16	21½	20½
16	3	3	10⅝	10⅝	⅝	19½	18¾	11/16	21½	20½
18	3	3	12⅛	11⅞	⅝	22	20¾	13/16	24½	22½

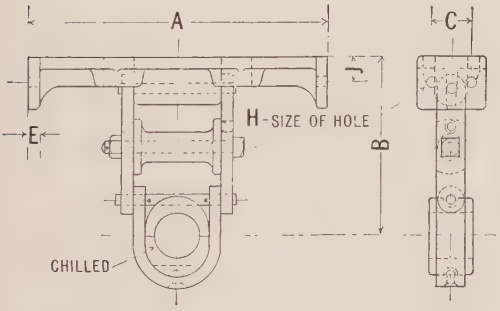


Table of Dimensions

No. 21 Hangers for Steel Box

Diameter Conveyor, Inches	Bearing Bore, Inches	Bearing Length, Inches	A Inches	B Inches	C Inches	E Inches	H Inches	J Inches
9	1½	2	10	6⅛	1¾	⅜	½	1
9	2	2	10	6⅛	1½	⅜	½	¾
12	2	2	13	7¾	1⅞	½	9/16	1⅛
12	2 7/16	3	13	7¾	2	½	9/16	1
12	3	3	13	7¾	2	½	9/16	1
14	2	2	15	9¼	2	½	9/16	1
14	2 7/16	3	15	9¼	2	½	9/16	1
14	3	3	15	9¼	2	½	9/16	1
16	2	2	17	10⅝	2	½	9/16	1
16	3	3	17	10⅝	2	½	9/16	1

"U" Bolts for Conveyor Hangers

In ordering "U" Bolts specify the style of hanger, diameter of conveyor, bore of hanger and diameter of "U" Bolt rod. Some of the older patterns of hangers have "U" Bolts made from smaller rod than the standards specified below.

Made for Nos. 17, 18, 19 and 23 Hangers.

Price List, Subject to Discount

Diameter Conveyor, Inches	Diameter of Rod	Price Each	CODE WORD For Size	Diameter Conveyor, Inches	Diameter of Rod	Price Each	CODE WORD For Size
4	5/16	$0.30	Liebkosen	12	1/2	$0.65	Liebreich
5	3/8	.35	Liebkosung	14	1/2	.70	Liebreizes
6	3/8	.35	Lieblich	16	5/8	1.10	Liebschaft
8	1/2	.50	Lieblingen	18	5/8	1.15	Liebsten
9	1/2	.50	Lieblos	20	5/8	1.20	Liebstraut
10	1/2	.55	Liebloser				

In telegraphing, use code word Limitaneos and follow with code word for size of hanger from list on page 60, and code word for style of hanger under cut.

Gear Guards for Standard Countershaft Box Ends

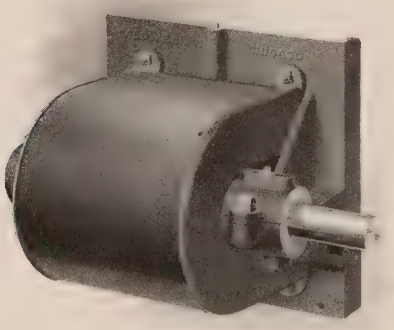


Fig. 45066-A. (*Liliengras*)

Factory Inspection Laws in many states require the covering of all exposed gears. The gear guards shown above will be found a neat and inexpensive covering for the gears of the Standard Pattern of countershaft box end, and are very easily installed.

Prices upon application.

Cast Iron Box Ends

We recommend the use at all driving ends of Caldwell Conveyors of a Cast Iron Box End, as shown on the following pages. These box ends close up and strengthen the conveyor box, and give a rigid bearing for the drive end shaft. Where the drive end is short, it is generally not necessary to use a pillow block to support the outer end of the drive end, if a box end is used. If the drive end is over 12 inches long, use a box end, and for the outer end of the drive end, a pillow block or other suitable bearing.

COUNTERSHAFT BOX ENDS are used when the line shaft and the conveyor are at right angles. These are made in both regular and extra heavy patterns. For very heavy work it is sometimes preferable to use the regular cast iron box end, with miter or bevel gear mounted on the drive end, and with the countershaft carried in independent bearings. This construction is also used when a series of conveyors are to be driven from a single long countershaft through sets of miter or bevel gears.

LUBRICATED GEAR COUNTERSHAFT BOX ENDS, pages 84 and 85, are a decided improvement over the usual type of countershaft box end. The gears are protected from dust and dirt, and run in oil.

SPLIT BOX ENDS are convenient to install, and permit the removal of the conveyor from the box by taking out only the upper half of the box end. This type of box end can be more easily re-babbitted than the solid type.

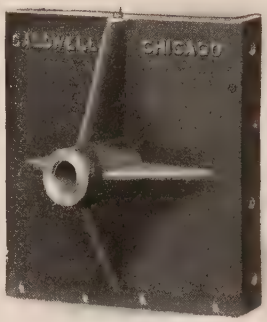
BOX ENDS WITH REMOVABLE CAP are so made that the bearing cap and a section of the end plate can be taken out and the conveyor lifted out without disturbing the main box end casting.

ADJUSTABLE BEARING BOX ENDS are split and in addition the bearing can be adjusted vertically, so as to properly line up the conveyor and to place the conveyor the proper distance from the bottom of the box. The box ends are easy to install, and the bearings can very easily be re-babbitted. The conveyor can be taken out without trouble, as the box end casting is split.

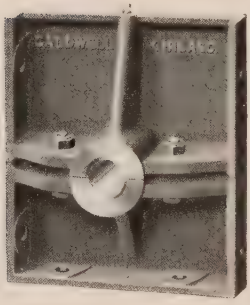
DISCHARGE BOX ENDS are used at the delivery end of a conveyor and are preferable to a hanger for this purpose, as they stiffen the box.

Cast Iron Box Ends for Wooden Boxes

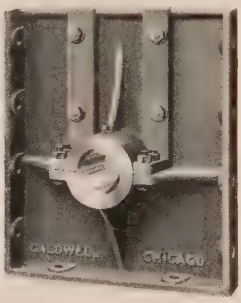
Inside Pattern, Solid
Fig. 45067. (*Absocer*)



Outside Pattern, Solid
Fig. 45068. (*Absorus*)

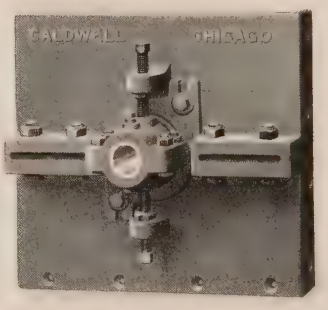


Inside Pattern, Split
Fig. 45069. (*Consuetude*)



Inside Pattern, Split, with Removable Cap
Fig. 45070. (*Adnisos*)

Inside Pattern, Split, with Adjustable Bearing.
Fig. 45071. (*Lacunars*)



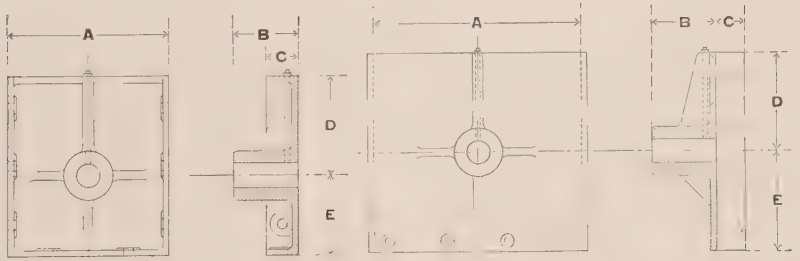
Outside Pattern, Split, with Adjustable Bearing.
Fig. 45072. (*Consurgere*)

Cast Iron Box Ends for Wooden Boxes—Continued

Price List, Subject to Discount

CODE WORD For Size	Diameter Conveyor, Inches	Diameter Shaft, Inches	Price, Solid Inside or Outside Pattern	Split Inside Pattern	Split Inside Pattern Removable Cap	Split Inside and Outside Pattern Adjustable Bearing
Abrade	3	¾	$ 1.75	.....	.....	.....
Abscind	4	1	2.00	$ 4.00	$ 4.50	.....
Abraider	5	1	2.75	.....	.....	.....
Abscission	6	1½	3.00	4.00	4.50	$ 8.50
Absenter	8	1½	4.25	5.25	6.50	10.00
Absenting	9	1½	4.50	5.50	6.75	10.00
Absinthian	9	2	5.00	6.50	7.50	11.00
Absist	10	1½	5.50	7.00	8.25	12.00
Absolute	10	2	6.00	7.50	9.00	13.00
Absolution	12	2	8.00	9.50	12.00	15.00
Absylla	12	2 7/16	9.00	11.00	13.50	20.00
Absolve	12	3	10.00	12.00	15.00	23.00
Limacodes	14	2	10.50	12.50	15.00	24.00
Absolving	14	2 7/16	11.50	13.00	16.50	25.00
Limadeira	14	3	12.50	15.00	18.50	27.00
Absolvitor	16	2	13.00	16.00	20.00	28.00
Absonant	16	3	14.00	17.00	21.00	30.00
Absonous	18	3	17.00	21.00	25.00	35.00
Absorbo	20	3	21.00	26.00	30.00	40.00

Dimension List

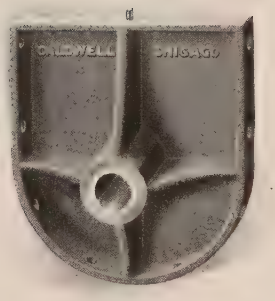


Inside Pattern Outside Pattern

INSIDE PATTERN					OUTSIDE PATTERN				
Diameter Conveyor, Inches	A Inches	B Inches	C Inches	D Inches	E Inches	A Inches	B Inches	C Inches	D Inches	E Inches
3	4	3	2	3	2	5¾	3	2	3	2¾
4	5	3	2	3⅜	2½	6¾	3	2	3⅜	3¼
5	6	3¼	2	4	3	8	3¼	2	4	4
6	7	3½	2	4½	3½	9	3½	2	4½	4¼
8	9	4	2	5¾	4½	12	4	2	5¾	5½
9	10	4	2	6⅜	5	13	4	2	6⅜	6
10	11	4½	2	7	5½	14	4½	2	7	7
12	13	5	2	9	6½	16¾	5	2	9	8
14	15	5½	2	9¾	7½	18¾	5½	2	9¾	9¼
16	17	6	2	11¼	8½	21	6	2¼	11¼	10¼
18	19	6½	2	12½	9½	23	6½	2½	12½	11¼
20	21	7	2	12½	10½	25	7	2½	12½	12¼

In describing kind of Box End wanted, use code word under cut and proper code word for size as listed.

Cast Iron Box Ends for Steel Boxes



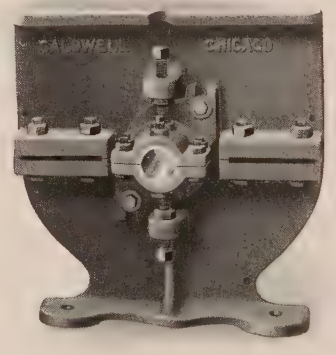
Inside Pattern, Solid
Fig. 45073. (*Absorbent*)

Outside Pattern, Solid
Fig. 45074. (*Construed*)

The Inside Pattern Box End, Fig. 45073, is used when the steel conveyor box is of the lap joint or riveted butt joint construction. With this construction the steel box is supported by conveyor box supports or saddles, either style B or Style C, as shown on page 110.

The Outside Pattern Box End, Fig. 45074 and Fig. 45075, is used when the conveyor box has cast iron flanges between the sections. Made both with and without feet.

Split Adjustable Bearing Box Ends are only made in the Outside Pattern. They are easy to install and repair and permit the lining up of the conveyor and the adjustment of the distance from the edge of the conveyor to the bottom of the box without trouble.



Outside Pattern, Split, with Adjustable Bearing.
Fig. 45075. (*Conatorem*)

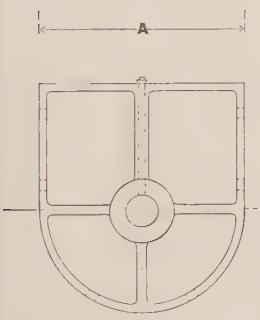
Cast Iron Box Ends for Steel Boxes—Continued

Price List, Subject to Discount

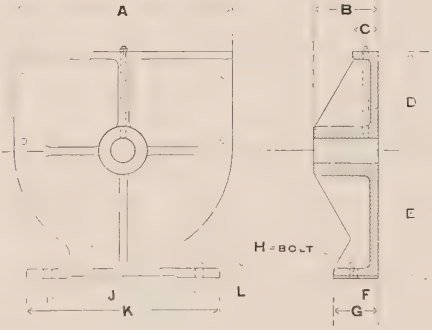
CODE WORD For Size	Diameter Conveyor, Inches	Diameter Shaft, Inches	Price, Solid Inside or Outside Pattern	Price, Split with Adjustable Bearings
Landdag	4	1	$ 3.00	.....
Lacunette	6	1½	4.00	$ 8.50
Lacuneux	8	1½	6.00	10.00
Laconose	9	1½	7.00	10.00
Lacunosum	9	2	7.50	11.00
Lacusculi	10	1½	8.00	12.00
Lacusculos	10	2	8.50	13.00
Lacusculum	12	2	10.00	15.00
Lacustrae	12	2 7/16	12.00	20.00
Lacustre	12	3	14.00	23.00
Limabuntur	14	2	15.00	24.00
Lacuturris	14	2 7/16	16.00	25.00
Limaceum	14	3	18.00	27.00
Lacydes	16	2	20.00	28.00
Lacydon	16	3	22.00	30.00
Ladainha	18	3	25.00	35.00
Ladairos	20	3	30.00	40.00

In describing kind of Box End wanted, use code word under cut and proper code word for size as listed.

Dimension List



Inside Pattern



Outside Pattern

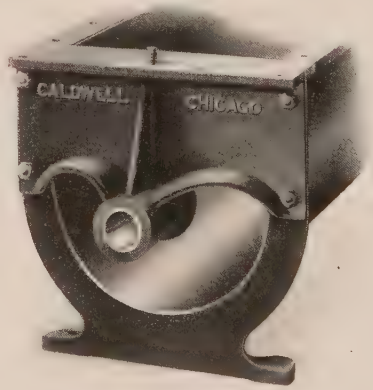
	INSIDE PATTERN					OUTSIDE PATTERN									
Dia. Conveyor, Inches	A Inches	B Inches	C Inches	D Inches	E Inches	A Inches	B Inches	C Inches	D Inches	E Inches	F Inches	G Inches	H Inches	J Inches	K Inches	L Inches
4	5	3	2	3 5/8	2½	8	3	1 7/16	3 5/8	4 5/8	¾	1¾	⅜	5¾	7¼	½
6	7	3½	2	4½	3½	9¾	3½	1½	4½	5 5/8	1	2	⅜	8⅛	10	½
8	9	4	2	5⅞	4½	12½	4	1½	5⅞	7⅛	1½	2½	½	8⅜	11	⅝
9	10	4	2	6⅛	5	13½	4	1⅝	6⅛	7⅞	1½	2¾	½	9⅜	12	⅝
10	11	4½	2	6⅜	5½	14½	4½	1¾	6⅜	8⅞	1¾	3	½	9½	12¾	⅝
12	13	5	2	7¾	6½	17¼	5	2	7¾	9⅝	1⅝	2⅝	⅝	12¼	15	¾
14	15	5½	2	9¼	7½	19¼	5½	2	9¼	10⅞	1⅝	2⅝	⅝	13½	16½	¾
16	17	6	2	10⅝	8½	21¾	6	2½	10⅝	12	2	3¼	⅝	14⅞	18	¾
18	19	6½	2	12⅛	9½	23½	6½	2½	12⅛	13⅜	2	3½	⅝	16	19	¾

Discharge Box Ends for Conveyor Boxes

Inside Pattern for Wooden and Steel Box
Fig. 45076. (*Conoid*)

Outside Pattern for Wooden Box
Fig. 45077. (*Ladanifere*)

Where it is desired to deliver the material at the end of the conveyor box without cutting a delivery opening in the bottom of the box, we recommend the use of our special Box End for Conveyor Boxes, shown in the cuts. Dimensions same as solid box ends (see pages 69 and 71).



Outside Pattern for Steel Box
Fig. 45078. (*Ladanos*)

Price List, Subject to Discount

Diameter Conveyor, Inches	Diameter Shaft, Inches	Price	CODE WORD For Size	Diameter Conveyor Inches	Diameter Shaft, Inches	Price	CODE WORD For Size
4	1	$1.75	Absorbing	12	$2\frac{7}{16}$	$ 8.00	Absteque
6	$1\frac{1}{2}$	2.75	Absorbt	12	3	9.00	Absterge
8	$1\frac{1}{2}$	3.80	Absoudre	14	2	9.50	Lilybaeis
9	$1\frac{1}{2}$	4.00	Abstain	14	$2\frac{7}{16}$	10.00	Abstergent
9	2	4.50	Abstainer	14	3	10.50	Lilybaeon
10	$1\frac{1}{2}$	5.00	Abstaining	16	2	11.50	Absterse
10	2	5.50	Abstemious	16	3	12.50	Abstersive
12	2	7.00	Abstention	18	3	15.00	Abstinence
				20	3	18.00	Limaberis

In describing kind of Box End wanted, use code word under cut and proper code word for size as listed.

End Thrust Cast Iron Box Ends

Fig. 45079. (*Althans*)
Steel Button End Thrust

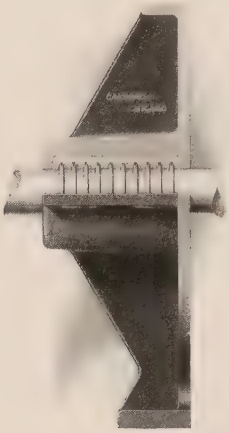


Fig. 45080. (*Alticope*)
Marine Type End Thrust

With Caldwell Conveyors of ordinary length, the end thrust is not sufficient to require the use of any special end thrust bearing. When very long conveyors are used, however, and when the conveyor is run at an incline and with very heavy material, it is sometimes necessary to use a box end of the type shown above.

The Steel Button End Thrust Box End, Fig. 45079, is simple and can easily be repaired. The end of the conveyor shaft is hardened and works against a hardened steel button. Oil holes or grease cups are provided for lubrication. In case of wear, the end, shaft, button and conveyor shaft can easily be replaced. This bearing permits slight adjustment endways.

The Marine Type End Thrust Box End, Fig. 45080, consists of a grooved conveyor shaft running in a babbitted bearing. The bearing is split, and can be easily rebabbitted in case of wear. This bearing is suited for heavier work than the other type.

Prices upon application.

Cast Iron Box Ends for Flared Box

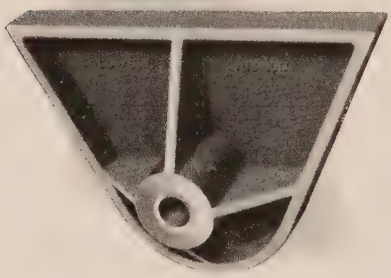


Fig. 45081. (*Likkebaard*)

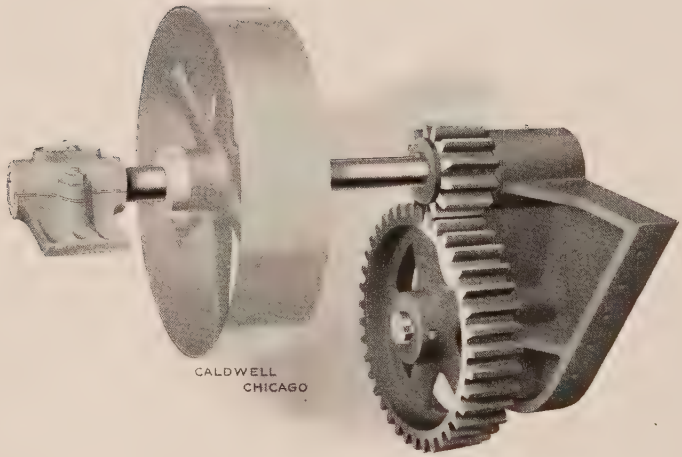
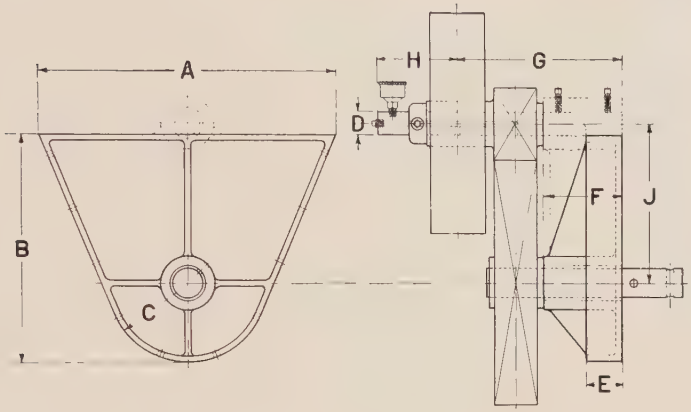


Fig. 45082. (*Likkebroer*)

The sizes listed on the next page fit the standard flared box, as listed on page 111. Special box ends can be furnished to fit any box, but to avoid pattern expense the standard cross section should be used where possible.

Spur Gear Box Ends are regularly furnished with short countershaft, with pinion and pulley mounted on loose babbitted sleeve. For extra heavy work an outboard bearing should be used on the countershaft, generally a drop hanger used inverted as a floor stand.

Cast Iron Box Ends for Flared Box



Price of Spur Geared Box End includes the box end casting, the drive end, countershaft with sleeve and projection long enough for pinion and pulley or sprocket, large gear and pinion. The pulley or sprocket is not included.

Price List, Subject to Discount

Diameter Conveyor, Inches	PLAIN BOX END		SPUR GEARED BOX END	
	Price Each	CODE WORD	Price Each	CODE WORD
9	$12.00	Letamino	$ 65.00	Letargosa
12	18.00	Letaminoso	100.00	Letargosos
14	24.00	Letandarum	120.00	Letatam
16	30.00	Letanias	180.00	Letaturum
18	37.50	Letantes	220.00	Letellier
20	45.00	Letargiche	300.00	Lethality

Dimensions, Inches

Diameter of Conveyor	A	B	C	D	E	F	G	H	J
9	18	14	5	$1\frac{11}{16}$	$2\frac{1}{2}$	$5\frac{1}{2}$	$11\frac{1}{2}$	5	$9\frac{5}{8}$
12	24	$18\frac{1}{2}$	$6\frac{1}{2}$	$1\frac{15}{16}$	3	$6\frac{1}{2}$	13	5	$11\frac{3}{8}$
14	24	$18\frac{1}{2}$	$7\frac{1}{2}$	$1\frac{15}{16}$	3	$6\frac{1}{2}$	$13\frac{3}{4}$	$6\frac{3}{4}$	13
16	24	$18\frac{1}{2}$	$8\frac{1}{2}$	$2\frac{3}{16}$	3	$6\frac{1}{2}$	$14\frac{3}{4}$	$6\frac{3}{4}$	$13\frac{1}{2}$
18	26	$21\frac{1}{2}$	$9\frac{1}{2}$	$2\frac{3}{16}$	3	$7\frac{1}{2}$	$15\frac{3}{4}$	$6\frac{3}{4}$	$13\frac{1}{2}$
20	34	$22\frac{1}{2}$	$10\frac{1}{2}$	$2\frac{3}{16}$	$3\frac{1}{2}$	$7\frac{1}{2}$	$16\frac{1}{4}$	7	$15\frac{5}{8}$

Cast Iron Box Ends with Stuffing Boxes

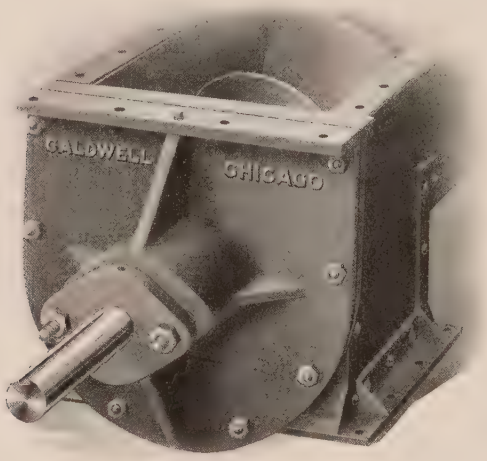


Fig. 45083. (*Lacune*)

Where the conveyor is carrying wet material, the box can be made watertight and the box ends made with stuffing boxes. Prices upon application.

Cast Iron Box Ends with Grease Pockets

Fig. 45084. (*Likkepot*)

When "Calypsol" or other hard grease is to be used, we can furnish special box ends with bearings having grease pockets. The bearing is removable, permitting rebabbitting or replacement of the bearing with very little trouble.

Prices upon application.

Heavy Countershaft Box Ends with Grease Pocket Bearings

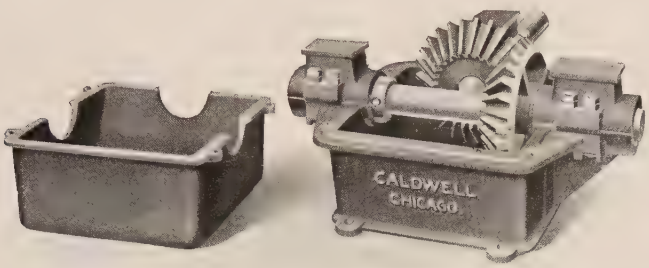


Fig. 45085. (*Liksteen*)

This type of Countershaft Box End was originally designed for use in cement mills, where the dust and grit rapidly wore out the usual drive. The bearings are made with grease pockets, for use with "Calypsol" or other hard grease. The gears are provided with a cover and oil well, so that they may be run in oil. The gears are very much heavier than the standard countershaft box end gears. For very heavy work this box end will be found entirely suitable.

Prices upon application.

Driving Arrangement for Long Line of Conveyor

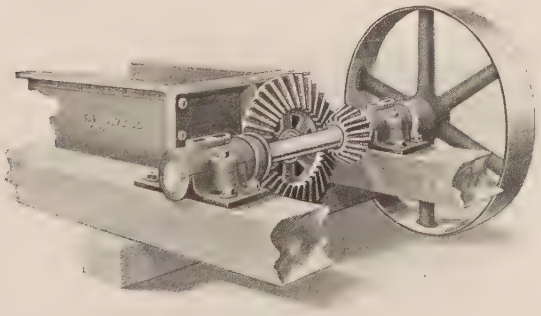
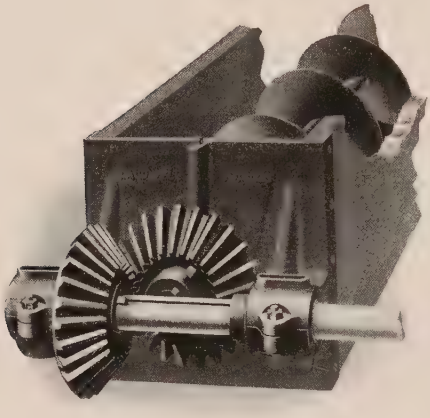


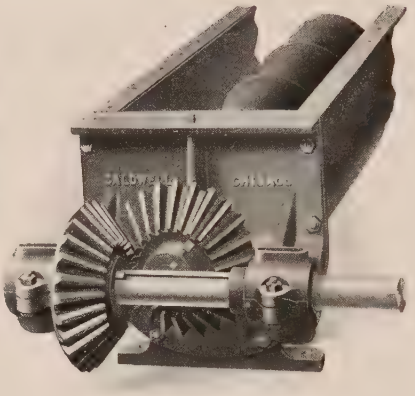
Fig. 45086. (*Lilablau*)

When the conveyor line has heavy duty or is unusually long a drive arranged as shown by the above cut is frequently employed. The size of gears and the size of countershaft is selected with reference to the work to be done.

Countershaft Box End for Caldwell Conveyor



For Wooden Box
Fig. 45087. (*Accadenza*)



For Steel Box
Fig. 45088. (*Laddertjes*)

The bearings for the countershaft and the conveyor drive end are all a part of the same casting. No separate bearings are required for the countershaft. By shifting the countershaft gear from one side to the other of the driven gear, the direction of motion of the conveyor can be reversed.

Unless the work is unusually heavy, the Standard Pattern Countershaft Box End shown above will be amply heavy. For very long conveyors, use the Extra Heavy Pattern Countershaft Box End.

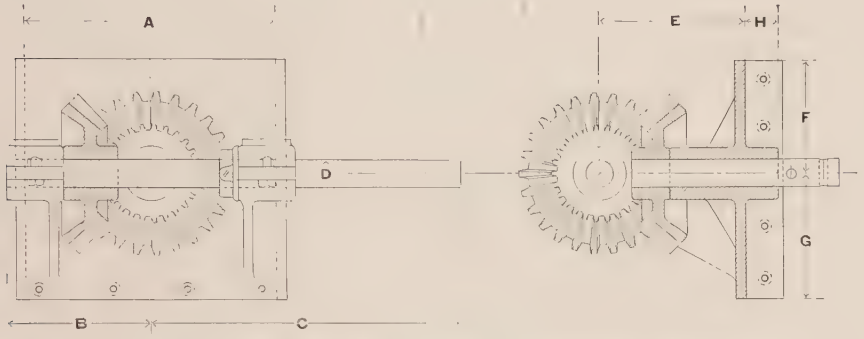
When box ends to fit steel boxes already made are wanted, send paper template showing exact size and location of bolt holes.

Price List, Subject to Discount

Including the box end casting, drive end projection for conveyor, miter gears and short countershaft.

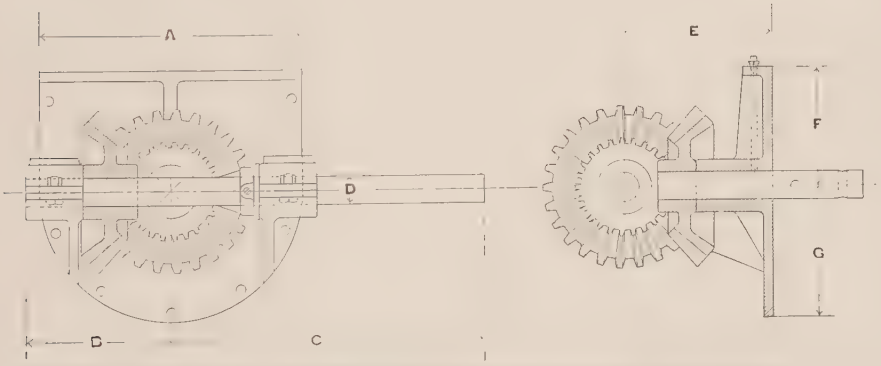
Diameter of Conveyor, Inches	Price, Each	Diameter of Drive End, Inches	Diameter of Countershaft, Inches	Code Word for Wood Box	Code Word for Steel Box
4	$ 21.00	1	1	Lichtspiel	Licnobias
6	27.00	1½	1½	Lichtsters	Licnobio
8	30.00	1½	1½	Lichtstock	Licoche
9	33.00	1½	1½	Lichtstrom	Licodonti
9	39.00	2	1½	Lichtstube	Licofro
10	43.00	1½	1½	Lichtstump	Licogala
10	48.00	2	1½	Lichttalg	Licoperdo
12	54.00	2	2	Lichtton	Licophre
12	63.00	2 7/16	2	Lichtvoll	Licopodio
12	72.00	3	2	Lichtwagen	Licquet
14	66.00	2	2	Lichtwelle	Licteur
14	75.00	2 7/16	2	Lichtwesen	Lictorium
14	85.00	3	2	Lichtwolke	Lictura
16	111.00	2	2 7/16	Lichwake	Licturis
16	126.00	3	2 7/16	Lichways	Licuadas
18	135.00	3	2 11/16	Lickerish	Licuado
20	150.00	3	2 15/16	Licmetis	Licuala

Dimension List of Countershaft Box Ends for Wooden Box



Diameter Conveyor, Inches	A Inches	B Inches	C Inches	D Inches	E Inches	F Inches	G Inches	H Inches
4	6¾	6	10	1	5½	3⅜	3¼	¾
6	9	7½	13½	1½	6½	4½	4¼	1¼
8	12	7½	16½	1½	6	5¾	5½	1¾
9	13	7½	16½	1½	6	6⅜	6	1¾
10	14	7½	16½	1½	6	7	7	1¾
12	16¾	10	22	2	8¼	9	8	1¾
14	18¾	10	22	2	8¼	9¾	9¼	1¾
16	21	14¼	25¾	2 7/16	13¾	11¼	10¼	1¾
18	23	14	26	2 11/16	13¾	12½	12½	2

For Steel Box



Diameter Conveyor, Inches	A Inches	B Inches	C Inches	D Inches	E Inches	F Inches	G Inches
4	8	6	10	1	6⅝	3⅝	4
6	9¾	7½	13½	1½	7¾	4½	4⅞
8	12½	7½	16½	1½	7¾	5⅞	6¼
9	13½	7½	16½	1½	7¾	6⅛	6¾
10	14½	7½	16½	1½	7¾	6⅜	7¼
12	17¼	10	22	2	10	7¾	8⅝
14	19¼	10	22	2	10	9¼	9⅝
16	21¼	14	26	2 7/16	15½	10⅝	10⅝

Bevel Gear Countershaft Box Ends

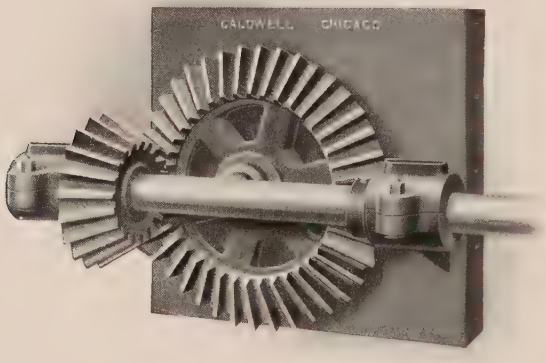


Fig. 45089. (*Altilla*)

Speed Ratio, Two to One, Decreasing Conveyor Speed

In cases where a slow running conveyor is wanted, and it is impossible to secure the necessary reduction from the line shaft, a Bevel Gear Countershaft Box End will prove useful. The countershaft speed is twice the speed of the conveyor.

This type of box end is made both for wood and steel conveyor boxes. For very heavy work we recommend our Extra Heavy Pattern Countershaft Box End, which is also made with bevel gears, if desired.

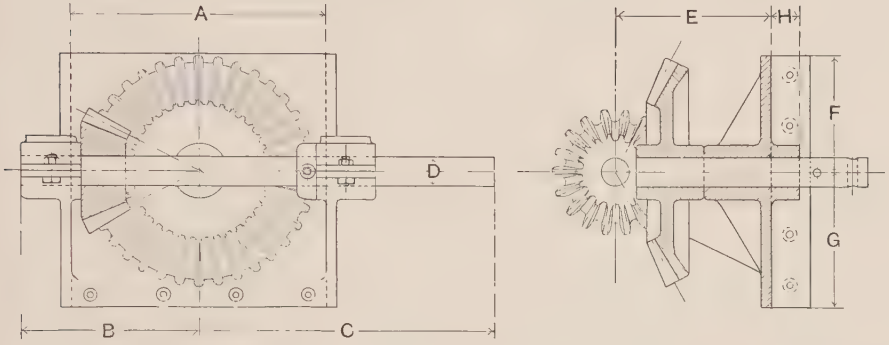
Price List, Subject to Discount

Including the cast iron box end, drive end projection for conveyor, bevel gears, and short countershaft.

Diameter of Conveyor, Inches	Price, Each	Diameter of Drive End, Inches	Diameter of Countershaft, Inches	Code Word
6	$ 50.00	1½	1½	Altillos
8	55.00	1½	1½	Laesuram
9	60.00	1½	1½	Altiloque
9	65.00	2	1½	Altincars
10	70.00	1½	1½	Lenzwinden
10	75.00	2	1½	Leobotes
12	80.00	2	2	Altingat
12	85.00	2 7/16	2	Altitetis
12	95.00	3	2	Altique
14	90.00	2	2	Leobvine
14	95.00	2 7/16	2	Laesuri
14	105.00	3	2	Leocadia
16	135.00	2	2 7/16	Altiscope
16	150.00	3	2 7/16	Altisonae
18	200.00	3	2 15/16	Altisono
20	250.00	3	2 15/16	Laesurorum

If wanted to fit Steel Box, add code word Ambonic.
If wanted to fit Wood Box, add code word Amboss.
For dimensions, see page 81.

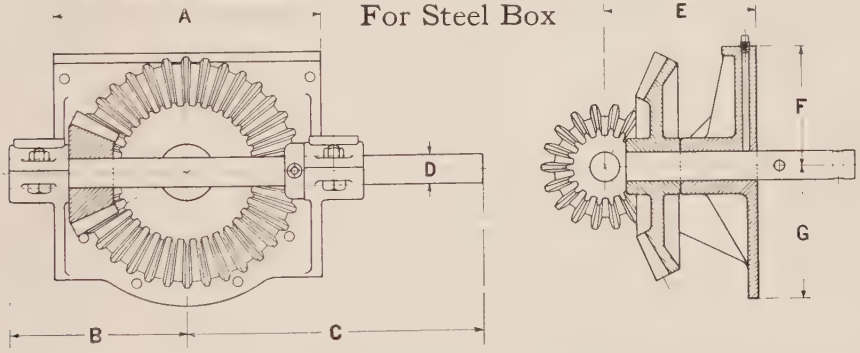
Bevel Gear Countershaft Box Ends For Wood Box



Dimensions

Diameter Conveyor, Inches	A Inches	B Inches	C Inches	D Inches	E Inches	F Inches	G Inches	H Inches
6	9	7 7/16	15 9/16	1½	6½	4½	4⅛	1⅞
9	13	9	18	1½	8	6⅜	6⅜	.....
10	14	11½	21½	2	8¾	7	7	1¾
12	16¾	13	25	2	9½	9	8	2
14	18¾	14¼	23¾	2	13¾	9¾	9¼	1¾
16	21	14¼	25¾	2 7/16	13¾	11¼	10¼	1¾
18	23	17½	30½	2 11/16	12¼	10½	11½	2¾
20	25	19 5/16	29 11/16	2 15/16	13⅝	12½	12¼	2

For Steel Box



Dimensions

Diameter Conveyor, Inches	A Inches	B Inches	C Inches	D Inches	E Inches	F Inches	G Inches
6	9¾	7½	15½	1½	7¾	4½	4⅞
9	13½	9	18	1½	7¾	6⅛	6¾
10	14½	11½	21½	1½	9⅞	6⅜	7¼
12	17¼	13	25	2	11¾	7¾	8⅝
14	19¼	13½	24½	2	15⅜	9¼	9⅝
16	21¼	14	26	2 7/16	15⅜	10⅝	10⅝
18	23	17½	30½	2 11/16	15	10½	11½
20	25	19 5/16	29 11/16	2 15/16	15⅝	12½	12¼

Extra Heavy Countershaft Box Ends

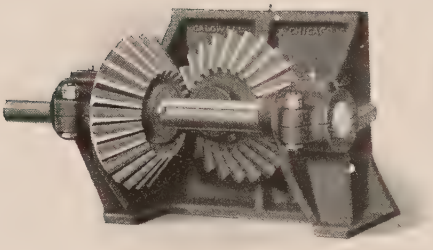


Fig. 45090. With Miter Gears. (*Ligodio*)

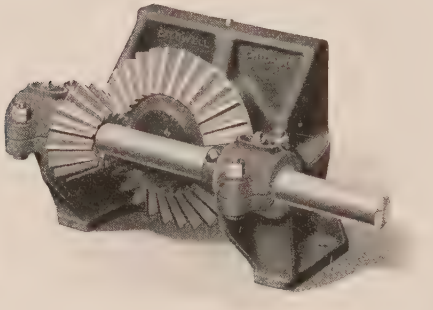


Fig. 45091. With Bevel Gears. (*Ligorne*) 2 to 1 ratio, reducing Conveyor speed

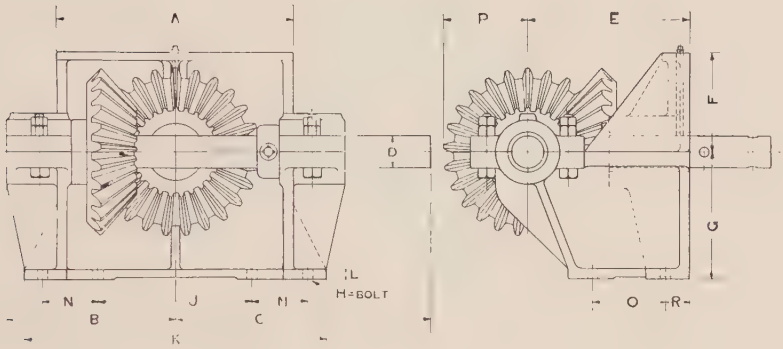
For most work the Standard Pattern Countershaft Box Ends shown on the preceding pages will be found amply heavy. Where the line of conveyor is very long or the material carried heavy, the Extra Heavy Countershaft Box Ends shown above should be used.

The main castings are much heavier and have supports under the countershaft bearings. The gears are heavier and the countershafts larger in diameter than for the standard pattern.

The same main castings are used for both the miter gear and bevel gear types. If it is desired to later change the speed of a conveyor, a pair of bevel gears can be substituted for miter gears and vice versa.

The cuts above show the box end for steel box. Also made for wooden box, outside pattern.

Extra Heavy Countershaft Box Ends



Price List, Subject to Discount

Including the box end casting, drive end projection for conveyor, miter or bevel gears, and short countershaft. Miter gears always furnished unless otherwise specified.

Diameter of Conveyor, Inches	Price, Each	Diameter of Drive End, Inches	Diameter of Countershaft, Inches	Code Word with Miter Gears	Code Word with Bevel Gears
9	$ 80.00	2	2	Leptorace	Lepusculos
12	120.00	2	2	Leptorhin	Lepusculum
12	130.00	$2\frac{7}{16}$	$2\frac{7}{16}$	Leptorhize	Lerchlein
12	145.00	3	3	Leptorime	Lerciaste
14	165.00	$2\frac{7}{16}$	$2\frac{7}{16}$	Leptosaure	Lercioso
14	170.00	3	$2\frac{7}{16}$	Leptosome	Lerdamente
14	180.00	3	3	Leptostyle	Leriarum
16	190.00	3	$2\frac{7}{16}$	Lepturgo	Leridanas
16	200.00	3	3	Lepusculi	Leridante

If wanted for wood box, outside pattern, add code word, "Ligplaats."

Dimensions

Diam. Conveyor, Inches	A Inches	B Inches	C Inches	D Inches	E Inches	F Inches	G Inches	H Inches	J Inches	K Inches	L Inches	N Inches	O Inches	P Inches	R Inches
9	$14\frac{1}{2}$	$10\frac{3}{8}$	$21\frac{5}{8}$	2	10	$6\frac{1}{8}$	$7\frac{7}{8}$	$\frac{1}{2}$	$9\frac{3}{8}$	$18\frac{1}{2}$	$\frac{5}{8}$	$3\frac{7}{16}$	$4\frac{1}{2}$	$5\frac{1}{4}$	$1\frac{1}{2}$
12	$21\frac{1}{4}$	$15\frac{9}{16}$	$26\frac{7}{16}$	3	$14\frac{1}{2}$	$7\frac{3}{4}$	$9\frac{5}{8}$	$\frac{5}{8}$	$12\frac{1}{4}$	$25\frac{1}{4}$	$\frac{3}{4}$	$5\frac{1}{2}$	8	$8\frac{1}{4}$	$1\frac{5}{8}$
14	$24\frac{7}{8}$	$17\frac{1}{16}$	$30\frac{15}{16}$	3	$15\frac{7}{8}$	$9\frac{1}{4}$	$10\frac{7}{8}$	$\frac{5}{8}$	$13\frac{1}{2}$	29	$\frac{3}{4}$	$6\frac{3}{4}$	9	$10\frac{1}{2}$	$1\frac{5}{8}$
16	25	$17\frac{1}{16}$	$30\frac{15}{16}$	3	$15\frac{7}{8}$	$10\frac{5}{8}$	12	$\frac{5}{8}$	$14\frac{7}{8}$	31	1	$6\frac{9}{16}$	$8\frac{7}{8}$	$10\frac{1}{2}$	2

Dimension "D" is the maximum size of countershaft which can be used. For size of countershaft furnished at regular price, see price list above.

Caldwell Lubricated Gear Countershaft Box Ends

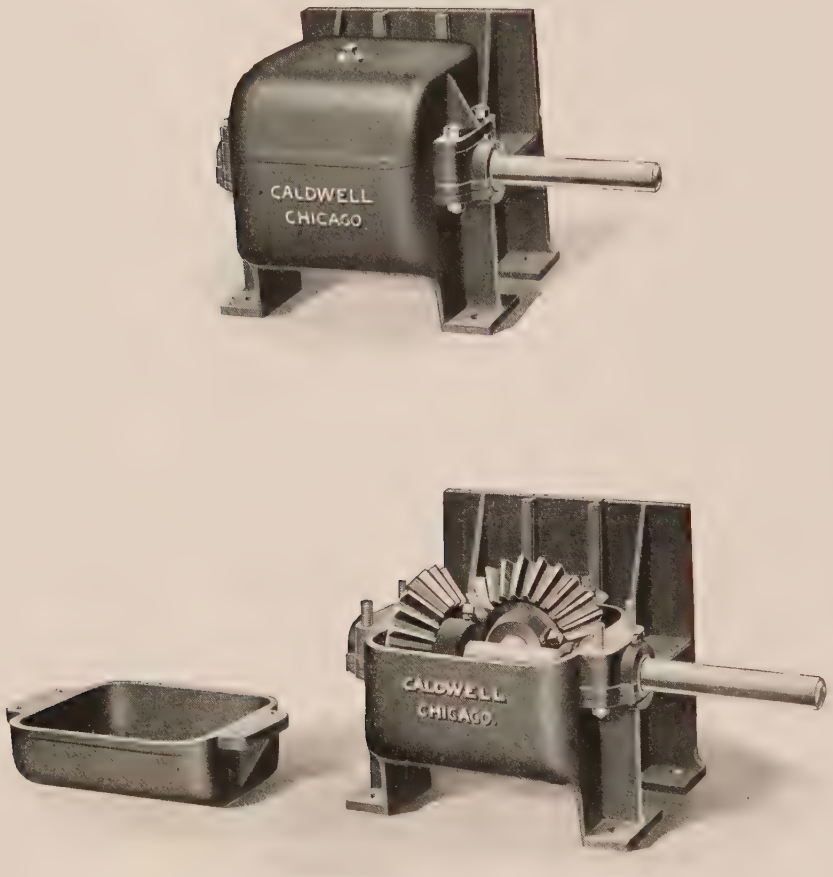


Fig. 45092. (*Lilacine*)

Caldwell "Lubricated Gear" Countershaft Box Ends are a decided improvement over the usual type both from the standpoint of longer life and because of safety. The gears are enclosed in an oil housing, and are constantly running in oil. The housing prevents dirt and grit reaching the gears.

In Cotton Seed Oil Mills, where this type of box end has been in successful operation for several years, the lubrication of the gears has been found to increase their life to three or four times the usual length of service. One filling of the oil reservoir will generally last for the

Caldwell Lubricated Gear Countershaft Box Ends

entire season. In Cement Plants, and other places where the grit and dirt rapidly wear out the gears, the saving will be even greater. The higher first cost of the box ends is soon repaid in the saving in cost of new gears and in the labor of replacing them and the cost of shutdowns.

As the gears are enclosed there is no chance of men becoming injured, nor of accident through tools, etc., getting into the gears. The Safety Inspection rules of the various states and of the insurance companies almost invariably call for all gears to be covered.

The caps for the bearings are independent of the cover casting, so that the cover can be removed for inspection of the gears without interfering with the adjustment of the bearings. The cover is provided with a plug for refilling, and there is a drain in the base for removing the oil.

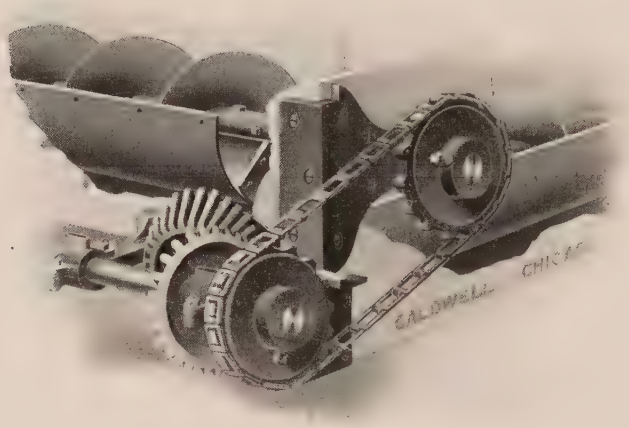
The price list below includes the countershaft box end, complete with drive end, and with countershaft of standard length as given in list. Special long countershafts can be furnished at extra charge.

These box ends are made for steel box, outside pattern, as shown in cut. By the use of suitable cast iron flanges, bolted on, the same box end can be used for steel box, inside pattern, code word Limentinus, also for wood box, outside pattern, code word Limettique, and for wood box, inside pattern, code word Limiganten. In ordering, always specify which style is wanted.

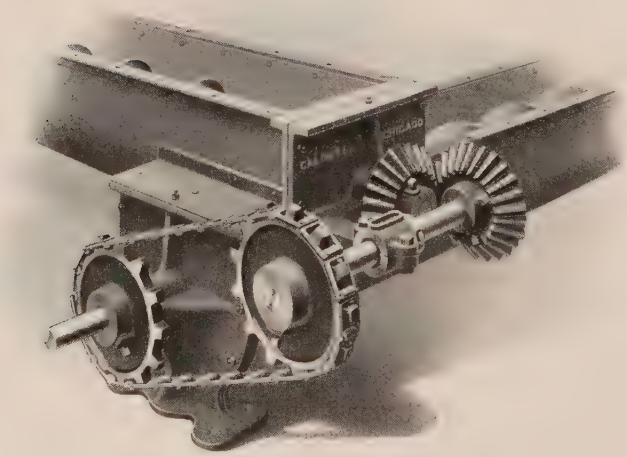
Price List, Subject to Discount

Diameter of Conveyor, Inches	Size of Drive End Inches	Price Each, Wood or Steel Box	CODE WORD Size Only (See above)	Diameter of Countershaft, Inches	Projection of Countershaft Beyond Bearing, Inches
6	1 1/2	$ 46.00	Limitalium	1 1/2	9
9	1 1/2	56.00	Letterhaak	1 1/2	9
9	2	62.00	Letterheld	1 1/2	9
10	1 1/2	73.00	Letterholz	1 1/2	9
10	2	78.00	Letterkast	1 1/2	9
12	2	92.00	Letterkeer	2	12
12	2 7/16	101.00	Letterless	2	12
12	3	110.00	Letterns	2	12
14	2	112.00	Lettersatz	2	12
14	2 7/16	121.00	Letterslot	2	12
14	3	131.00	Letteruto	2	12
16	2	190.00	Letteruzza	2 7/16	12
16	3	205.00	Lettervorm	2 7/16	12

Improved Right-Angle Conveyor Drive



For Wooden Box
Fig. 45093. (*Accedendo*)



For Steel Box
Fig. 45094. (*Laddove*)

The above illustrations show our improved device for use with conveyors running at right angles, where it is desired to deliver the material from one conveyor into the other and apply the power at one point only. The right-angle miter-gear bearing ends shown on page 90 are open to the objection that in order to deliver the material from one con-

Improved Right-Angle Conveyor Drive—Continued

veyor into the other at right angles it is necessary to force the material along the angle piece at the corners of the boxes, thus throwing the greatest work upon the end flights of the delivering conveyor and causing liability to choke up in cases where the full capacity of the conveyor is required, or where the material is difficult to handle.

With the Improved Right-Angle Conveyor Drive, the upper or delivering conveyor can carry its full capacity and drop it into the lower or receiving conveyor without any more liability of clogging or choke up than if the material were carried in a straight line. The power to drive both conveyors may be applied at the end of either line; or, if more convenient, the power can be applied to any one of the shafts shown in the foregoing cuts of the driving device.

In order to secure proper delivery from one conveyor into the other it is necessary that the delivering conveyor box should be a few inches higher than the box for the receiving conveyor. The difference in levels, however, is so slight that there is hardly any case where there is not room to accommodate it.

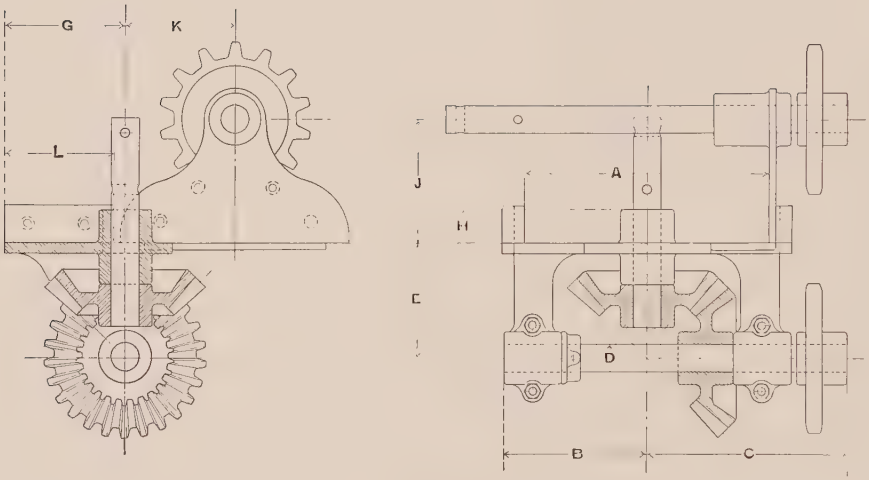
Price List, Subject to Discount

Diameter Caldwell Conveyor, Inches	FOR WOOD BOX		FOR STEEL BOX		Diameter Both Drive Ends, Inches	Countershaft Diameter, Inches
	Price Each	CODE WORD	Price Each	CODE WORD		
4	$ 35.00	Acemilares	$ 38.00	Laesuros	1	1
6	40.00	Acemilon	45.00	Lafaards	1½	1½
8	50.00	Acensuaba	55.00	Lafbek	1½	1½
9	54.00	Acentores	60.00	Lafbekken	1½	1½
9	60.00	Acepillaba	68.00	Lafenis	2	2
10	68.00	Aceptisimo	77.00	Laffemas	1½	1½
10	75.00	Acequiero	85.00	Laffenmaul	2	2
12	85.00	Acerandos	95.00	Laffette	2	2
12	95.00	Acerbamas	105.00	Lafhartig	2 7/16	2
12	107.00	Acerbavit	120.00	Lafheden	3	2
14	112.00	Acerbezza	125.00	Lafheid	2	2
14	120.00	Acercanza	135.00	Lafontaine	2 7/16	2
14	135.00	Lilinum	150.00	Lillazio	3	2
16	170.00	Acernada	190.00	Laganorum	2	2 7/16
16	185.00	Acerrimo	205.00	Lagaradiga	3	2 7/16
18	200.00	Lilliput	225.00	Lilliputer	3	2 11/16

Prices above include the castings forming box ends and bearings, as shown; the miter gears, sprocket wheels, chain, set collar, miter gear shaft, drive end long enough for sprocket, and with the outfit for steel conveyor box, we also furnish two flanges to connect the two boxes, semi-circular in shape.

If countershafts or drive end longer than standard are required, an additional charge will be made.

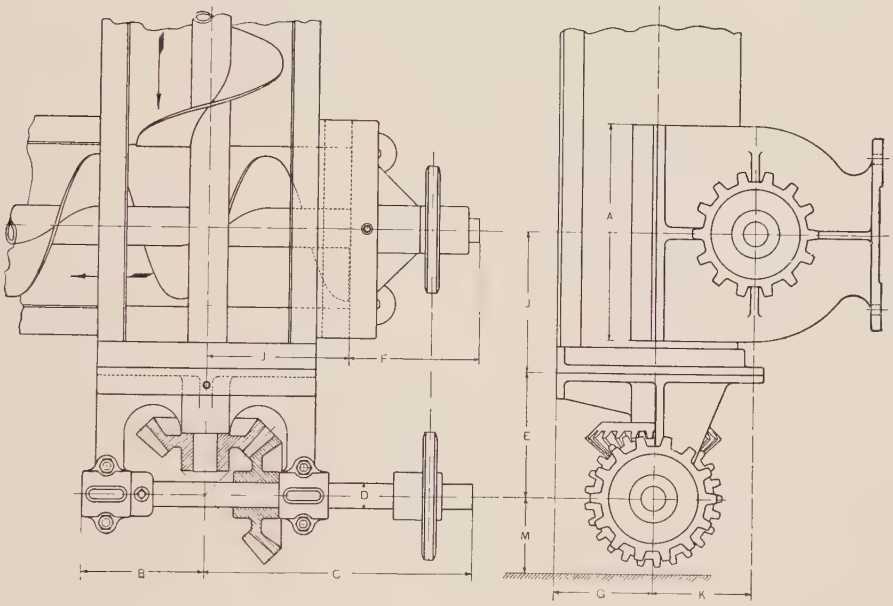
Improved Right-Angle Conveyor Drive for Wood Box



Dimensions

Diameter Conveyor, Inches	A Inches	B Inches	C Inches	D Inches	E Inches	G Inches	H Inches	J Inches	K Inches	L Inches
4	6¾	6	8	1	5½	3¼	¾	3⅜	3⅛	3
6	9	7½	10½	1½	6½	4¼	1¼	4½	4½	4⅜
8	12	7½	10½	1½	6	5½	1¾	6	5¾	5⅜
9	13	7½	10½	1½	6	6	1¾	6½	6⅛	5¾
10	14	7½	12½	1½	6	7	1¾	7	6½	6⅝
12	16¾	10	14	2	8¼	8	1¾	8⅜	8	7¾
14	18¾	10	16	2	8¼	9¼	1¾	9⅜	9	9
16	21	14¼	19¼	2 7/16	13¾	10¼	1¾	10½	9¾	9¾

Improved Right-Angle Drive for Steel Box



Dimensions

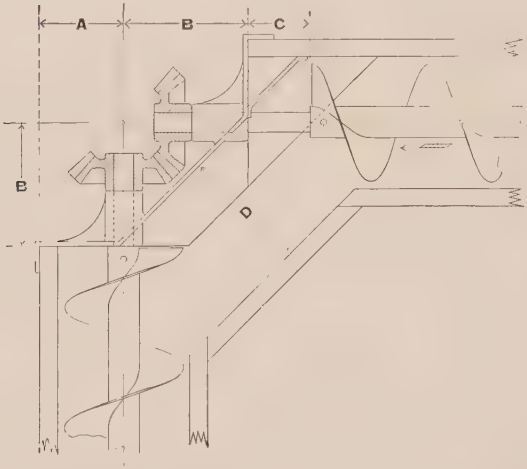
Diameter Conveyor, Inches	A Inches	B Inches	C Inches	D Inches	E Inches	F Inches	G Inches	J Inches	K Inches	M Inches
4	8 1/16	5 15/16	10 1/16	1	6 5/8	6 1/2	3 5/8	5 1/2	3 1/8	3 1/4
6	9 3/4	7 1/2	13 1/2	1 1/2	7 3/4	7	4 1/2	6 3/4	4 1/2	5
8	12 1/2	7 7/16	16 9/16	1 1/2	7 3/4	8	5 7/8	8	5 3/4	5
9	13 5/8	7 9/16	16 7/16	1 1/2	7 3/4	8	6 1/8	8 3/4	6 1/8	5
10	14 1/2	7 9/16	17 7/16	1 1/2	7 3/4	8 1/2	6 3/8	9 1/4	6 1/2	5
12	17 3/8	10	22	2	10	9 1/2	7 3/4	11	8	6
14	19 1/2	10	22	2	10	10	9 1/4	12 1/4	9	6
14	19 1/2	14	26	2 7/16	15 3/8	10 1/2	9 1/4	12 1/4	9	8 1/4
16	21 1/4	14	26	2 7/16	15 3/8	11	10 5/8	13 3/4	10 1/4	8 1/4

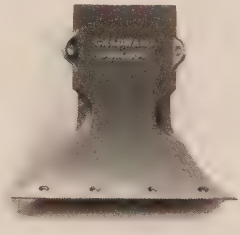
Miter-Gear Bearing Ends for Right-Angle Conveyors

Fig. 45095. (*Acariens*)

Where it is possible to accommodate the slight difference in level of conveyors, which is necessary in order to use our Improved Right-Angle Conveyor Drive (see Figures 45093 and 45094), we would recommend that the improved style be employed. If, however, it is necessary that both conveyors should be on the same level, the miter-gear bearings for Right-Angle Conveyors shown above can be used.

It is necessary, however, in order to secure the delivery from one conveyor to the other, that the proper "hand" of conveyor be used, so that the tendency of a screw conveyor to carry on one side of the shaft will be taken advantage of to assist the end flights of the conveyor in pushing the material past the corner.





Corner Piece
Fig. 45096. (*Acauline*)

Figure 45096 shows casting along which material is pushed from one conveyor to another.

Price List, Subject to Discount

Diameter of Conveyor	A Inches	B Inches	C Inches	D Inches	Price	CODE WORD
4	3⅜	5⅞	2	4½	$22.00	Accalmie
6	4½	7¾	4	6½	28.00	Accaparer
9	6½	9⅜	6	9½	50.00	Acatorse
12	8⅜	11¾	7	11½	80.00	Accede

Wooden Conveyor Boxes

On account of their bulk and weight and the consequent heavy freight charges, it is generally cheaper to have Wooden Conveyor Boxes made on the ground by local millwrights. It is also very easy to twist these boxes out of shape in shipping, unless heavily crated which of course adds to the expense. We therefore recommend that they be made on the ground in almost every case.

We can, however, make up these boxes if necessary and will be pleased to quote prices upon the conveyors complete, fitted into wooden boxes.

In making up wooden conveyor boxes, always use seasoned lumber, dressed on all sides, unless for very rough work.

Place the box as straight and level as possible, and fasten well to supports as often as convenient. The more solid the box, the better.

To prevent the box from spreading, put cleats across the top every four feet.

Always use Cast Iron Box Ends at the drive end. For very long conveyors, make the drive independent of the conveyor box.

The curved steel lining should be put in smoothly and lapped so that the material will run off the lap. In case the conveyor is a reversible one, that is, intended to run one way to carry material out and reversed to bring it back, butt the ends of the pieces of lining together on a strap of iron, or by cutting out curved blocks of wood and fitting the linings to them as shown in Fig. 45097.

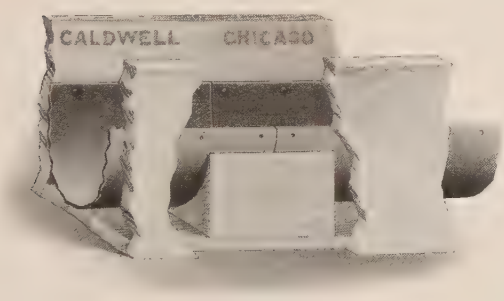
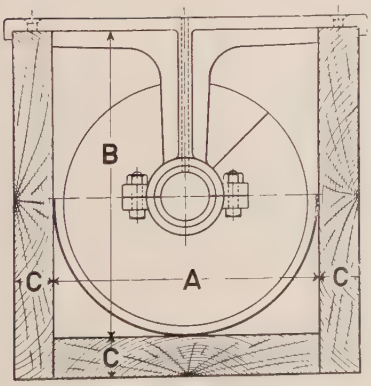


Fig. 45097. (*Ladislaus*)

Ordinarily the box should be made one inch wider inside than the diameter of the conveyor. The conveyor should work as close to the bottom as possible, just so as not to scrape.

Dimensions of Wooden Conveyor Boxes

Dimensions "C" & "D" are for lumber dressed both sides



Diameter Conveyor, Inches	A Inches	B Inches	C & D Inches
3	4	5	⅞
4	5	6	⅞
5	6	7	⅞
6	7	8	⅞
8	9	10¼	1⅜
9	10	11½	1⅜
10	11	12¾	1⅜
12	13	15¾	1¾
14	15	17½	1¾
16	17	19¾	1¾
18	19	22	1¾
20	21	23	1¾

Conveyor Linings

Standard Gauges and Widths

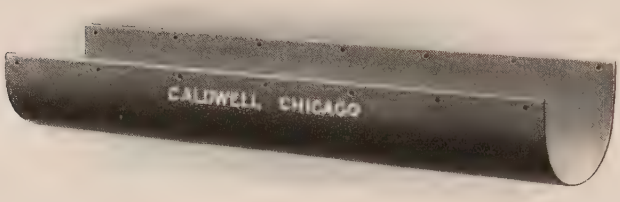


Fig. 45098. (*Ladeado*)

Price List, Subject to Discount

Diameter of Conveyor, Inches	Price per Lineal Foot	CODE WORD	Gauge of Steel	Width of Sheet, Inches	Standard Length of Sheet, Inches
4	$0.21	Ablutorum	22	8½	30
6	.30	Abnegabo	22	11¼	30
8	.50	Abnegamus	20	16	30
9	.50	Abnepotum	20	16	30
10	.55	Abnoctant	20	18	30
12	.60	Abnodamus	20	20	30
14	.95	Abnodando	18	24	30
16	1.20	Abocaban	18	27	30
18	1.45	Abocadea	18	36	30

Any one of the above code words, when preceded by a number, will be understood to mean so many lineal feet of lining of the size, gauge, and width shown.

Extra Width Lining

The ordinary width of conveyor lining does not extend quite to the center line of the conveyor. In some cases it is desirable to line the conveyor box for a greater height, and in such cases extra width lining can be supplied as shown, at extra cost.

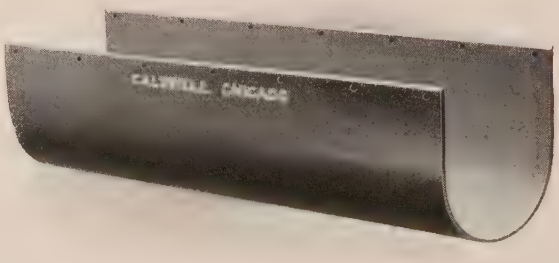


Fig. 45099. (*Ladearemos*)

Heavy Conveyor Linings

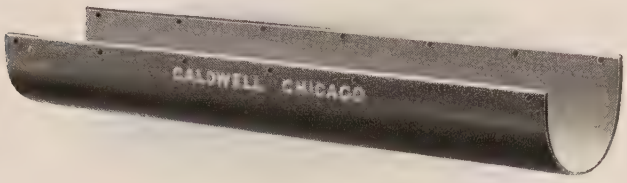


Fig. 45100. (*Ladearais*)

In telegraphing, use code word for size, followed by the code word for gauge and preceded by number of feet of lining wanted. For example, Fifty Liferent Liflaf, would be translated as Fifty Lineal Feet of 4-inch lining, 8½ inches wide of No. 20 gauge steel.

Price List, Subject to Discount

Diam. of Conveyor, Inches	Width of Sheet, Inches	CODE WORD For Size	GAUGE OF STEEL, PRICE PER LINEAL FOOT AND CODE WORD FOR GAUGE								
			Liflaf 20	Lotoa 18	Lozon 16	Ludet 14	Lugre 12	Lukte 10	Lunam 8	Luogo 3/16	Luwer 1/4
4	8½	Liferent	$0.25	$0.35	$0.40						
4	10	Lifesome	.30	.40	.50						
6	11¼	Lifespring	.40	.50	.60	$0.70					
6	14	Lifetime	.45	.55	.65	.80					
8	16	Lifeweary		.65	.75	.95	$1.25				
8	18	Liflaffen		.75	.85	1.00	1.35				
8	20	Liflafjes		.80	.90	1.15	1.55	$2.00			
9	16	Ligabais		.65	.75	.95	1.25				
9	18	Ligacao		.75	.85	1.00	1.35				
9	20	Ligados		.80	.90	1.15	1.55	2.00			
10	18	Ligadura		.75	.85	1.00	1.35				
10	20	Ligagamba		.80	.90	1.15	1.55	2.00			
10	24	Ligamaza			1.10	1.35	1.85	2.40			
12	20	Ligamental		.80	.90	1.15	1.55	2.00	$2.70	$3.10	$4.00
12	24	Ligamentos			1.10	1.35	1.85	2.40	3.20	3.65	4.75
14	24	Ligaminis			1.10	1.35	1.85	2.40	3.20	3.65	4.75
14	27	Ligaminum			1.40	1.70	2.30	3.00	3.60	4.10	5.10
16	27	Ligariamos			1.40	1.70	2.30	3.00	3.60	4.10	5.10
16	30	Ligariani			1.50	1.85	2.45	3.10	3.90	4.40	5.50
16	36	Ligaturant			1.65	2.05	2.80	3.60	4.40	4.90	6.40
16	42	Ligazones				2.30	3.10	4.00	5.00	5.50	7.00
16	48	Ligdagen				2.55	3.40	4.40	5.60	6.10	7.60
18	36	Ligdini			1.65	2.05	2.80	3.60	4.40	4.90	6.40
18	42	Ligdinus				2.30	3.10	4.00	5.00	5.50	7.00

Perforated Conveyor Linings

The use of Caldwell Conveyor, either with regular flights or with cut flights, running in a box lined with perforated metal, is a most effective and economical method of separating sand, dirt, grit and other foreign substances from cotton seed and other material.

We recommend where perforated lining is so used, that the metal be wider than is ordinarily used for plain steel lining and also of heavier gauge. The prices for perforated lining vary not only with the size of the perforations, the width of the sheet and the gauge of metal, but also very largely with the quantity ordered at one time.

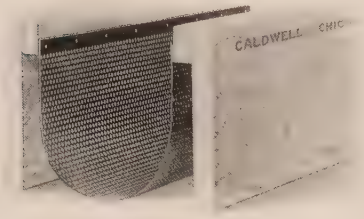


Fig. 45101. (*Accolent*)

Where perforated lining is used with cut-flight or other conveyor for cleaning purposes, the best way of placing the lining in the box is shown by cut opposite, the box being constructed, as indicated, with the curved lining wide enough to extend near the top of the box and setting out one or two inches from side of box, to allow the sand and dirt to drop through the perforations. This plan gives more working surface for the material to rub over.

When the sand and dirt from the material would drop where not wanted, we build the box with perforated lining and a supplemental conveyor of small size, 4 inches in diameter, as illustrated.

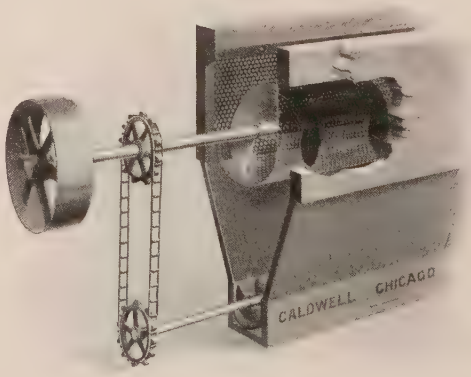


Fig. 45102. (*Accomplice*)

The lower conveyor can be driven by sprocket wheel and chain from the upper conveyor at the end most convenient, care being taken not to interfere with the discharge of the screenings. The refuse can be carried by the small conveyor wherever may be desired.

Perforated Conveyor Lining

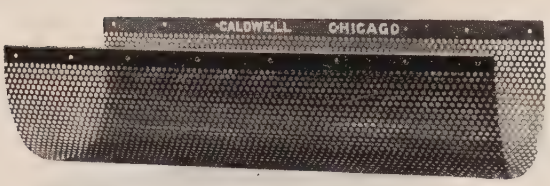


Fig. 45103. (*Abocina*)

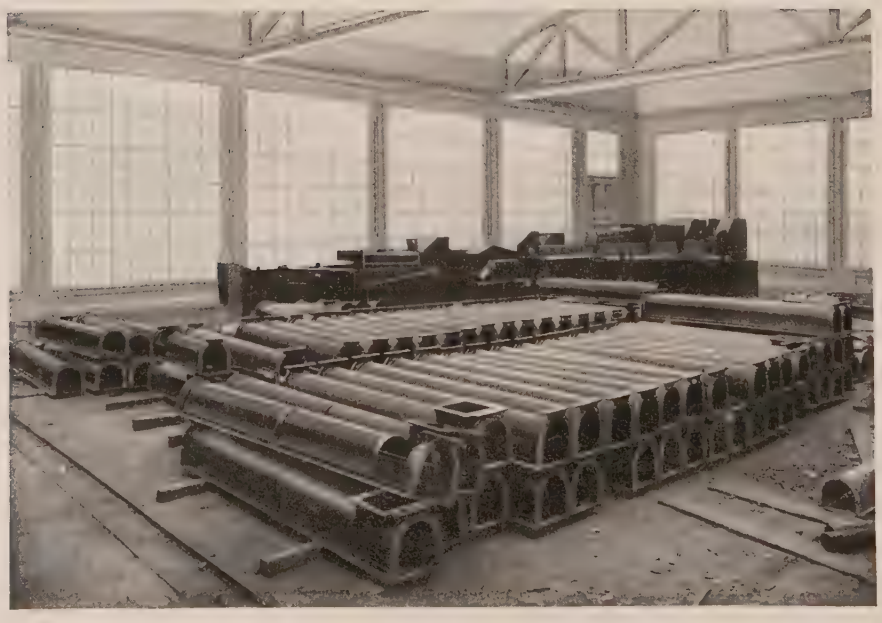
The sizes of perforated lining listed below are those most generally used, and are carried in stock. We can make up and ship promptly other sizes and perforations and will be pleased to quote prices upon receipt of specifications as to size of conveyor, width of sheet, margin around perforations, size of perforations, gauge of steel, and quantity required.

The list prices below cover lining strictly in accordance with the standard specifications only.

Price List, Subject to Discount

Diameter of Conveyor, Inches	List Price per Lineal Foot	CODE WORD	Gauge of Steel	Width of Sheet, Inches	Standard Length of Sheet, Inches	Diameter of Perforations, Inches
6		Adeptos	18	12	30	1/8
6		Adeptum	18	12	30	5/32
6	$0.65	Aderig	18	12	30	3/16
6		Aderimus	18	12	30	1/4
9		Admistam	18	18	30	1/8
9		Admistus	18	18	30	5/32
9	1.00	Admitir	18	18	30	3/16
9		Admito	18	18	30	1/4
10		Admittit	18	20	30	1/8
10	1.10	Admixing	18	20	30	1/4
12		Admixtos	18	24	30	1/8
12		Admixtum	18	24	30	5/32
12	1.30	Admodum	18	24	30	3/16
12		Abmolior	18	24	30	1/4

Caldwell Helicoid Conveyor in Steel Box



Steel Conveyor Boxes

Fig. 45104. (*Lilafarben*)

Steel Conveyor Boxes have practically superseded the wooden conveyor box, except where the wooden box can be made on the ground very cheaply. The Steel Box is more durable, fireproof, and in the long run is no more expensive. When both conveyor and box are ordered at the same time, we fit up the conveyor in the box before shipping, to insure proper fit and alignment.

The gauge of steel to be used in steel conveyor boxes depends on the material to be handled. With abrasive materials such as sand, stone, etc., the box should be very much heavier than with grain. It is always cheaper in the long run to have the box amply heavy, as the additional cost is slight compared with the loss of time and expense of replacing a box which is too light.

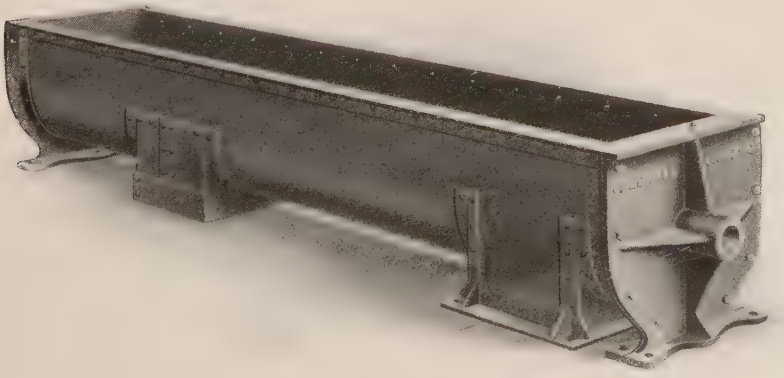


Fig. 45105. (*Consulship*)

Steel Conveyor Boxes

Fig. 45106. (*Alzada*)
Lap Riveted Joint

Fig. 45107. (*Alzare*)
Butt Strap Joint

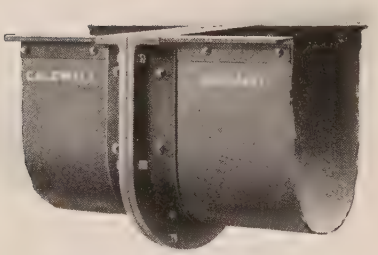


Fig. 45108. (*Lagareta*)
Cast Iron Flanges without feet

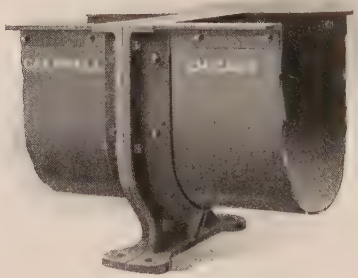


Fig. 45109. (*Alzamos*)
Cast Iron Flanges with feet

We manufacture conveyor boxes with four styles of joints between the sections. The Lap Riveted Joint, Fig. 45106, is the simplest type and is suitable where the thickness of steel does not exceed No. 14 Gauge. The box is generally supported by Box Supports or Saddles, spaced as often as desired. This type of box is not as rigid as where cast iron flange connections are used, the only cross bracing being from the hangers.

The Butt Strap Joint is used for heavier boxes. With this joint there is no lap inside the box and the material flows equally well in either direction. With the Lap Joint the laps should be arranged so that the material will flow off the lap. When either the Lap Joint or Butt Strap Joint is used, the boxes are riveted together and the rivets must be chipped off to get the boxes apart.

Cast Iron Flange Connections, either with or without feet, make a very rigid joint and one which is easily put together and taken apart. The flanges are riveted to the box, and the pairs of flanges are bolted together. When Cast Iron Flanges with feet are used, it is not necessary to use Saddles to support the box.

The price list on the following pages gives prices for box with all styles of connections. Price list of Box Supports or Saddles is on page 110.

Conveyor Box Covers

We always recommend the use of covers, if only for safety. When covers are used there is no chance of tools, pieces of iron, etc., falling into the conveyor and damaging the flights, nor of the workmen accidentally stepping into the conveyor.

Clamp Covers

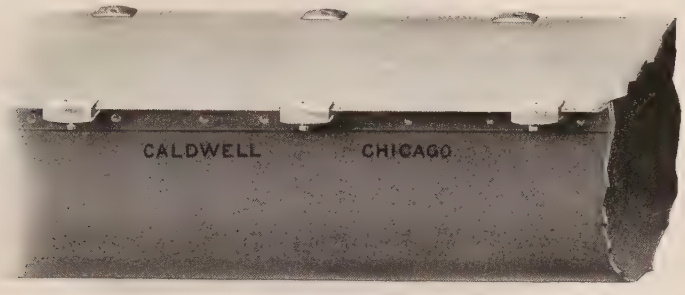


Fig. 45110. (*Laderolle*)

Cover Clamp or Fastening

Fig. 45111. (*Ladeschein*)
Price subject to discount, each, $0.22

The Clamp Cover, Fig. 45110, is easy to remove and there are no bolt holes to match up as with the bolted cover.

Bolted Cover

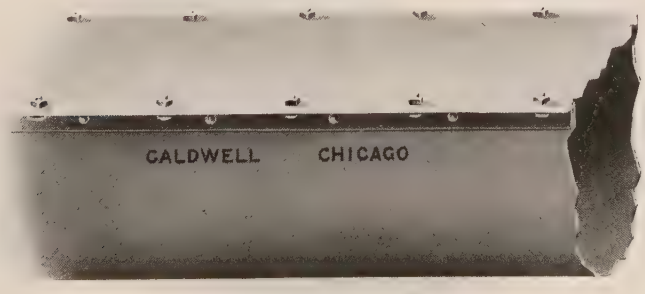


Fig. 45112. (*Ladestock*)

Hip Roof Covers

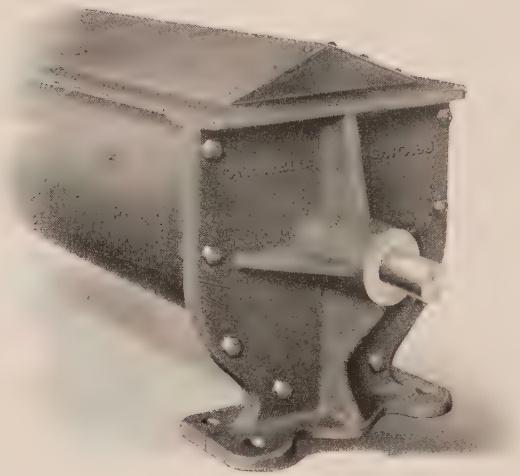


Fig. 45113. (*Lilalithe*)

Where the conveyor is to be used in the open, covers of the type shown in Fig. 45113 are used to shed rain and snow.

Dust Tight Covers

Where the conveyor is carrying dusty material, bolted covers with gaskets between the cover and the box are used. The bolts must be spaced closer than with the ordinary bolted cover. Generally the conveyor box is also furnished with gaskets between all joints, when a dust tight cover is wanted. Extra charges for making the box and cover dust tight will be quoted on application.

Hinged Covers

Where it is desired to inspect the conveyor frequently, a hinged cover will be found convenient. The entire cover can be made hinged, or only an occasional section, the balance being of the bolted or clamped type. The Dust Seal Cover, as shown in Fig. 45114, can also be made hinged.

Extra charges for Hinged Covers quoted on application.

Dust-Seal Conveyor Box

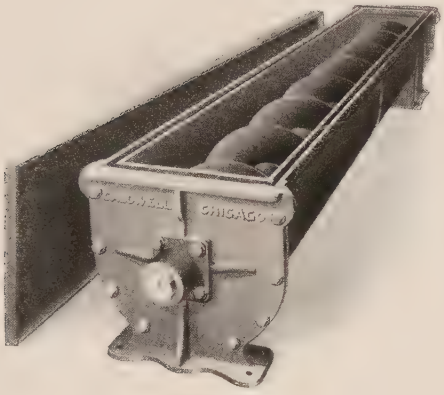


Fig. 45114. (*Adnavi*)

Dust Seal Conveyor Box is made with a channel around the top in place of the usual angle iron construction. The dust from the conveyor collects in this channel, into which the flanged cover fits, and effectually seals the box, so that no more dust can escape. With this construction it is not necessary to have any gaskets or tightly bolted cover, and the cover can be readily removed for inspection of the conveyor, without loosening any bolts.

The Dust Seal Box is somewhat more expensive than the usual conveyor box, and requires a special cover, and box ends and cast iron flange connections with grooves in the top to receive the flanged cover. The great convenience of this construction and the saving in time when inspecting or repairing the conveyor, as compared with a bolted cover, makes it worth many times the additional cost.

The cross section of the inside of the Dust Seal Box is the same as the standard conveyor box, page 102. Prices will be quoted on application.

Steel Conveyor Boxes

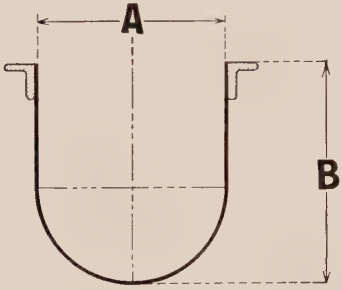


Fig. 45115.

For conveyor box supports, see page 110.
For discharge openings, see pages 104 to 107.

Price List, Subject to Discount

Diameter of Conveyor, Inches	DIMENSIONS				BOX		COVER		Code Word For Box Complete With Cover
	Width of Sheet, Inches	A, Inches	B, Inches	Size of Angle, Inches	Gauge of Metal	Price per Foot	Gauge of Metal	Price per Foot	
3	13	4	4¾	1 x 1 x 1/8	*20	$2.10	22	$0.50	Leodice
3	13	4	4¾	1 x 1 x 1/8	18	2.25	20	.60	Leodocus
3	13	4	4¾	1 x 1 x 1/8	16	2.75	18	.75	Leofric
4	15	5	6⅛	1 x 1 x 1/8	*18	2.25	20	.60	Leogane
4	15	5	6⅛	1 x 1 x 1/8	16	2.75	18	.75	Leokrates
4	15	5	6⅛	1 x 1 x 1/8	14	3.25	16	.85	Leokritos
4	15	5	6⅛	1 x 1 x 1/8	12	4.00	16	.85	Leonadas
4	15	5	6⅛	1 x 1 x 1/8	10	5.00	16	.85	Leonado
5	16	6	7	1 x 1 x 1/8	*16	2.75	18	.80	Leoncino
5	16	6	7	1 x 1 x 1/8	14	3.25	16	.90	Leonculo
5	16	6	7	1 x 1 x 1/8	12	4.00	16	.90	Leoneira
5	16	6	7	1 x 1 x 1/8	10	5.00	16	.90	Leonelli
6	20	7	8	1¼ x 1¼ x 3/16	*16	2.75	18	.85	Leoneros
6	20	7	8	1¼ x 1¼ x 3/16	14	3.25	16	1.00	Leonesco
6	20	7	8	1¼ x 1¼ x 3/16	12	4.00	16	1.00	Leonilda
6	20	7	8	1¼ x 1¼ x 3/16	10	5.00	16	1.00	Leoninarum
6	20	7	8	1¼ x 1¼ x 3/16	8	6.00	16	1.00	Leoninely
7	22	8	8⅝	1¼ x 1¼ x 3/16	*16	3.00	18	.90	Leonini
7	22	8	8⅝	1¼ x 1¼ x 3/16	14	3.50	16	1.05	Leonnato
7	22	8	8⅝	1¼ x 1¼ x 3/16	12	4.50	16	1.05	Leonnatus
7	22	8	8⅝	1¼ x 1¼ x 3/16	10	5.50	16	1.05	Leonorios
7	22	8	8⅝	1¼ x 1¼ x 3/16	8	6.75	16	1.05	Leonpodio
8	26	9	10⅜	1½ x 1½ x 3/16	16	3.25	18	.95	Leonteas
8	26	9	10⅜	1½ x 1½ x 3/16	*14	3.75	16	1.10	Leonteo
8	26	9	10⅜	1½ x 1½ x 3/16	12	4.75	16	1.10	Leontiades
8	26	9	10⅜	1½ x 1½ x 3/16	10	5.75	16	1.10	Leonticam
8	26	9	10⅜	1½ x 1½ x 3/16	8	7.00	14	1.35	Leontichus
9	28	10	11⅛	1½ x 1½ x 3/16	16	3.50	18	1.00	Leontici
9	28	10	11⅛	1½ x 1½ x 3/16	*14	4.00	16	1.15	Leonticos
9	28	10	11⅛	1½ x 1½ x 3/16	12	5.00	16	1.15	Leontiques
9	28	10	11⅛	1½ x 1½ x 3/16	10	6.00	16	1.15	Leontodon
9	28	10	11⅛	1½ x 1½ x 3/16	8	7.25	14	1.45	Leontofono
9	28	10	11⅛	1½ x 1½ x 3/16	3/16	8.75	14	1.45	Leontonice

See note at bottom of next page.

Steel Conveyor Boxes

Price List, Subject to Discount—Continued

Diameter of Conveyor, Inches	DIMENSIONS				BOX		COVER		Code Word For Box Complete With Cover
	Width of Sheet, Inches	A, Inches	B, Inches	Size of Angle, Inches	Gauge of Metal	Price per Foot	Gauge of Metal	Price per Foot	
10	30	11	11 7/8	1 1/2 x 1 1/2 x 3/16	16	$ 4.00	18	$1.05	Leonurina
10	30	11	11 7/8	1 1/2 x 1 1/2 x 3/16	*14	4.50	16	1.20	Leonzio
10	30	11	11 7/8	1 1/2 x 1 1/2 x 3/16	12	5.50	16	1.20	Leopardali
10	30	11	11 7/8	1 1/2 x 1 1/2 x 3/16	10	6.75	16	1.20	Leopardi
10	30	11	11 7/8	1 1/2 x 1 1/2 x 3/16	8	8.00	14	1.50	Leopardum
10	30	11	11 7/8	1 1/2 x 1 1/2 x 3/16	3/16	9.50	14	1.50	Leophanes
12	36	13	14 1/4	2 x 2 x 3/16	16	4.50	18	1.25	Leophron
12	36	13	14 1/4	2 x 2 x 3/16	14	5.00	16	1.45	Leopoldina
12	36	13	14 1/4	2 x 2 x 3/16	*12	6.00	16	1.45	Leopoldo
12	36	13	14 1/4	2 x 2 x 3/16	10	7.50	16	1.45	Leosthenes
12	36	13	14 1/4	2 x 2 x 3/16	8	9.00	14	1.75	Leotade
12	36	13	14 1/4	2 x 2 x 3/16	3/16	10.50	14	1.75	Lepachide
12	36	13	14 1/4	2 x 2 x 3/16	1/4	12.75	14	1.75	Lepadella
14	42	15	16 3/4	2 x 2 x 3/16	16	5.25	16	1.50	Lepadidae
14	42	15	16 3/4	2 x 2 x 3/16	14	6.00	16	1.50	Lepantino
14	42	15	16 3/4	2 x 2 x 3/16	*12	7.25	16	1.50	Lepechin
14	42	15	16 3/4	2 x 2 x 3/16	10	8.75	16	1.50	Lepechinia
14	42	15	16 3/4	2 x 2 x 3/16	8	10.25	14	1.80	Lepelaars
14	42	15	16 3/4	2 x 2 x 3/16	3/16	11.75	14	1.80	Lepelblad
14	42	15	16 3/4	2 x 2 x 3/16	1/4	14.00	14	1.80	Lepelboom
16	48	17	19 1/8	2 x 2 x 3/16	16	5.75	16	1.60	Lepelgans
16	48	17	19 1/8	2 x 2 x 3/16	14	6.75	16	1.60	Lepelhaak
16	48	17	19 1/8	2 x 2 x 3/16	*12	8.25	16	1.60	Lepelkost
16	48	17	19 1/8	2 x 2 x 3/16	10	9.75	14	1.90	Lepelsteel
16	48	17	19 1/8	2 x 2 x 3/16	8	11.25	14	1.90	Lepelstok
16	48	17	19 1/8	2 x 2 x 3/16	3/16	12.75	14	1.90	Lepeltjes
16	48	17	19 1/8	2 x 2 x 3/16	1/4	15.00	14	1.90	Lepelzucht
18	54	19	21 5/8	2 1/2 x 2 1/2 x 1/4	14	7.50	14	2.10	Leperize
18	54	19	21 5/8	2 1/2 x 2 1/2 x 1/4	12	9.00	14	2.10	Lepicene
18	54	19	21 5/8	2 1/2 x 2 1/2 x 1/4	*10	10.75	14	2.10	Lepidanam
18	54	19	21 5/8	2 1/2 x 2 1/2 x 1/4	8	12.75	12	3.00	Lepidanthe
18	54	19	21 5/8	2 1/2 x 2 1/2 x 1/4	3/16	14.25	12	3.00	Lepidaploa
18	54	19	21 5/8	2 1/2 x 2 1/2 x 1/4	1/4	18.00	12	3.00	Lepidope
20	60	21	23 3/4	2 1/2 x 2 1/2 x 1/4	12	12.00	14	2.30	Lepidianus
20	60	21	23 3/4	2 1/2 x 2 1/2 x 1/4	*10	13.75	14	2.30	Lepidion
20	60	21	23 3/4	2 1/2 x 2 1/2 x 1/4	8	15.75	12	3.30	Lepidoforo
20	60	21	23 3/4	2 1/2 x 2 1/2 x 1/4	3/16	17.25	12	3.30	Lepidolite
20	60	21	23 3/4	2 1/2 x 2 1/2 x 1/4	1/4	21.00	12	3.30	Lepidonote

*Lists marked * are considered standard and boxes will be furnished accordingly unless heavier gauges are specified.

Prices named above are for plain boxes without gates or openings. If gates or openings are needed, an extra charge will be made.

Covers are always included unless instructions are given to the contrary.

If covers are not required, add code word Acclarke.

For devices for fastening covers, see page 99.

Prices of covers include either clamp fastenings or the necessary bolts for bolted cover. Clamp fastenings furnished unless otherwise specified.

For price list of gates and openings in steel boxes, see page 104.

Discharge Openings for Steel Conveyor Boxes

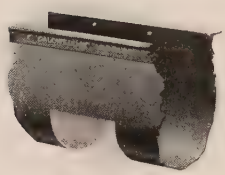


Fig. 45116. (*Lagartadas*)
Plain Opening
No Gate or Spout

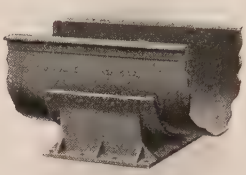


Fig. 45117. (*Lapedo*)
Cast Iron Stub
Discharge Spout

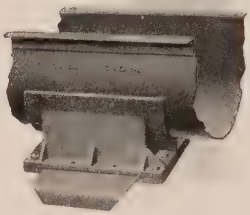
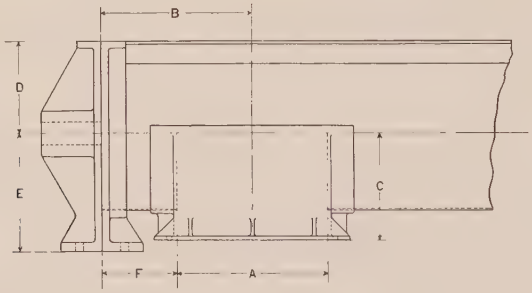


Fig. 45118. (*Alypus*)
Cast Iron Stub Discharge
Spout with Slide Gate

The Cast Iron Stub Discharge Spout is riveted to an opening cut in the conveyor box. The Spout is complete in itself and is a single solid casting. When a Slide Gate is desired, another casting is bolted on to the Discharge Spout, forming a slide and a steel gate is furnished. The gate can either slide at right angles to the conveyor or along the bottom of the box, as desired. If necessary, levers can be attached to operate the slide gate from a distance, at an additional charge.



Price List, Subject to Discount

Diameter Conveyor, Inches	Plain Opening, No Gate or Spout	Standard Stub Discharge Opening	Standard Stub Discharge Opening With Slide Gate	DIMENSIONS, INCHES					
				A	B	C	D	E	F
4	$1.50	$ 6.50	$ 8.50	5	6	3¾	3⅝	4⅝	3½
6	1.80	7.75	10.00	7	7½	5	4½	5⅝	4
8	2.10	10.00	12.00	9	9	6⅜	5⅞	7⅛	4½
9	2.10	11.00	13.00	10	10	7⅛	6⅛	7⅞	5
10	2.20	12.00	15.00	11	11	7⅞	6⅜	8⅞	5½
12	2.30	13.00	16.50	13	12½	8⅞	7¾	9⅝	6
14	2.55	15.50	20.00	15	13½	10⅛	9¼	10⅞	6
16	3.00	20.00	25.00	17	14½	11⅛	10⅝	12	6
18	3.60	25.00	30.00	19	16½	12⅜	12⅛	13⅜	7

Special Discharge Gates and Spouts

Fig. 45119. (*Ladenzeng*)

Fig. 45120. (*Ladenzins*)

We can furnish special gates, spouts, etc., for conveyor boxes to suit conditions. Prices on application.

Perforated Metal Conveyor Box

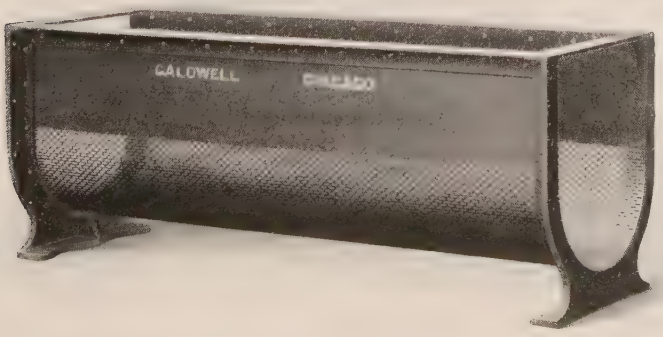


Fig. 45121. (*Ladepforte*)

Rack and Pinion Discharge Gates

Fig. 45122. (*Liliaceo*)

The Rack and Pinion Gate is more convenient to operate than the plain slide gate in certain cases. The Discharge Spout is the same as used with the Plain Slide Gate, and the gate is fastened to the rack. By substituting a sprocket wheel for the hand wheel shown, the gate can be operated from a distance or, when the conveyor is overhead, from the floor.

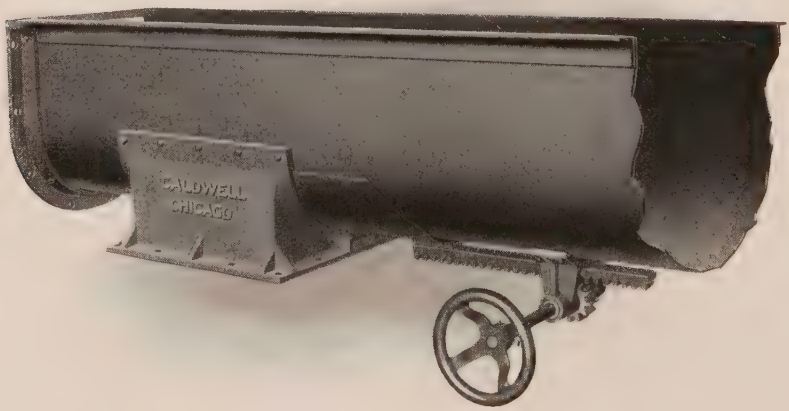
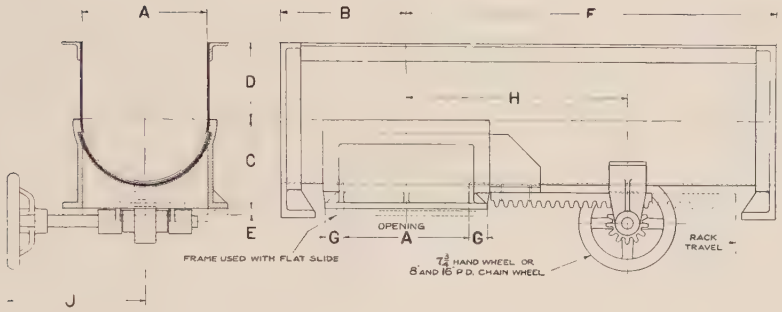


Fig. 45123. (*Liliarden*)

The type of Rack and Pinion Gate shown above is preferred in some cases. The gate is curved and fits the bottom of the conveyor box closely.

Rack and Pinion Discharge Gates



The prices below include the Rack and Pinion Discharge Gate complete with spout casting, and include fitting to steel box. The standard pattern, Fig. 45122, will always be furnished unless otherwise specified.

Price List, Subject to Discount

Diameter Conveyor, Inches	Price Each Fitted	CODE WORD For Size	DIMENSIONS, INCHES							
			A	B	C	D	E	F	G	H
4	$18.00	Lethargia	5	6	3¾	3⅝	⅜	25⅜	1¼	14¼
6	21.00	Lethargize	7	7½	5	4½	7/16	30⅜	1½	17¾
8	27.00	Lethargos	9	9	6⅜	5⅞	½	37½	1½	22
9	30.00	Letheonize	10	10	7⅛	6⅛	9/16	38¾	1½	23
10	33.00	Lethifere	11	11	7⅞	6⅜	9/16	41¼	1⅝	24½
12	36.00	Lethifico	13	12½	8⅞	7¾	9/16	45⅞	2⅛	28
14	48.00	Letifica	15	13½	10⅛	9¼	⅝	52¼	2⅛	31
16	66.00	Letificara	17	14½	11⅛	10⅝	⅝	56½	2⅛	34

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Caldwell Patent Delivery Gates

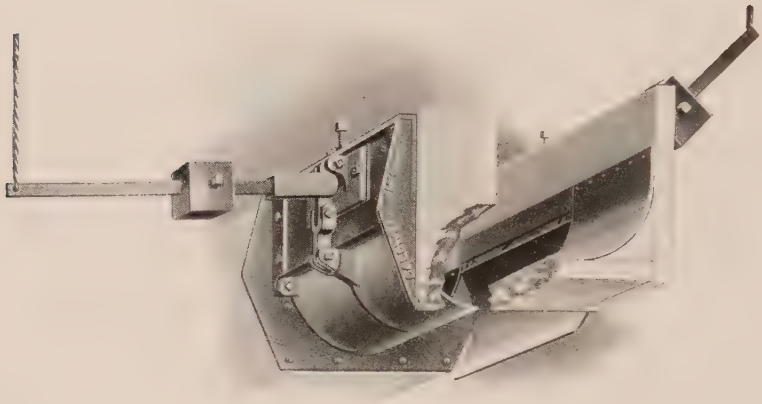
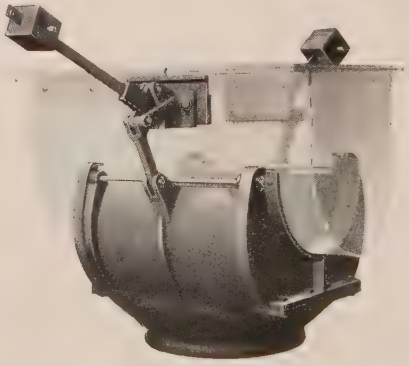


Fig. 45124. (*Academist*)
For Wooden Conveyor Box

The natural action of a conveyor is to carry more material on one side of the shaft than the other, unless the box is full. When run at high speed, the material will not deliver through ordinary openings in the bottom of the box without carrying over.

The Caldwell Patent Delivery Gate is self-contained, so that in attaching same to the box no fitting is required except to properly fasten the castings to openings cut in the box. The gates reach above the center of the conveyor and are hinged, so when they are open, the fact that the conveyor carries on one side of the shaft does not interfere with the perfect discharge of the material, and this is true even although the conveyor is run at a high speed. We make the gates very much shorter than the ordinary slide openings and secure perfect delivery.

Closed
Fig. 45125. (*Acariatse*)



Open
Fig. 45126. (*Acariatse*)

For Steel Conveyor Box, with Hopper

Caldwell Patent Delivery Gates—Continued

It will be seen that by pulling a rope attached to its end the lever acts on the knuckle joint and the gate drops open. The weight on the lever arm is sufficient, when the rope is released, to lift the gate, closing the box, and as the knuckle joint is so arranged that when the gate is closed it is slightly past the center, no amount of pressure on the gate itself can open it.

The Caldwell Patent Delivery Gate, as made for Steel Conveyor Box, is furnished with Hopper and Spout, with Hopper only and without Hopper and Spout. The Hopper and Turnspout cannot be furnished with the gate for wood box.

Fig. 45127
For Steel Conveyor Box, with Hopper and Turnspout

Price List, Subject to Discount

Diameter of Conveyor, Inches	PRICE EACH AND CODE WORD FOR STYLE				Code Word for Size only
	For Wood Box Fig. 45124 (Lepiota)	For Steel Box without Spout or Hopper (Lettish)	For Steel Box with Hopper only (Leuktra)	For Steel Box with Hopper and Spout (Leukweg)	
6	$ 35.00	$ 35.00	$ 50.00	$ 85.00	Lepidope
9	45.00	45.00	60.00	100.00	Lepidopile
10	50.00	50.00	65.00	110.00	Lepidopode
12	60.00	60.00	75.00	125.00	Lepidosis
14	70.00	70.00	85.00	135.00	Lepidotide
16	85.00	85.00	105.00	165.00	Lepidoto
18	100.00	100.00	125.00	200.00	Lepidulos

In telegraphing, use code word for size and follow with code word for style as given at head of column in price list.

Conveyor Box Supports or Saddles

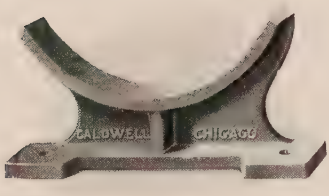
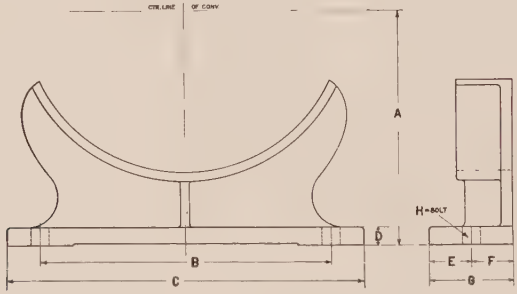


Fig. 45128. (*Ladezeiten*)
Standard Saddle

Fig. 45129. (*Ladhoelzer*)
Extra Height Saddle

Cast Iron Box Supports or Saddles are used when Lap Joint or Butt Strap Joint Conveyor Box is used, or when it is desired to support the box on steel work, spaced at different intervals from the lengths of the conveyor sections.

The price list below covers only the standard height of saddle, as given in dimensions below. Special heights of Saddles can be furnished at additional cost if required.



Price List, Subject to Discount

Diameter Conveyor, Inches	Standard Saddle, Fig. 45128, Each	CODE WORD	A Inches	B Inches	C Inches	D Inches	E Inches	F Inches	G Inches	H Inches
4	$0.60	Lichtharig	4 5/8	5 3/4	7 1/4	1/2	1 1/4	3/4	2	3/8
6	.90	Lichthater	5 5/8	8 1/8	10	1/2	1 1/4	1	2 1/4	3/8
8	1.40	Lichtell	7 1/8	8 3/8	11	5/8	1 1/8	1 1/2	2 5/8	1/2
9	1.60	Lichtofes	7 7/8	9 3/8	12	5/8	1 1/4	1 1/2	2 3/4	1/2
10	2.10	Lichtoofd	8 7/8	9 1/2	12 3/4	5/8	1	1 3/4	2 3/4	1/2
12	2.50	Lichthut	9 5/8	12 1/4	15	3/4	1 7/8	1 5/8	3 1/2	5/8
14	3.50	Lichting	10 7/8	13 1/2	16 1/2	3/4	2 3/8	1 5/8	4	5/8
16	4.00	Lichtkever	12	14 7/8	18	3/4	2 1/2	2	4 1/2	5/8
18	4.50	Lichtleben	13 3/8	16	19	3/4	2 1/4	2	4 1/4	5/8

Flared Conveyor Box

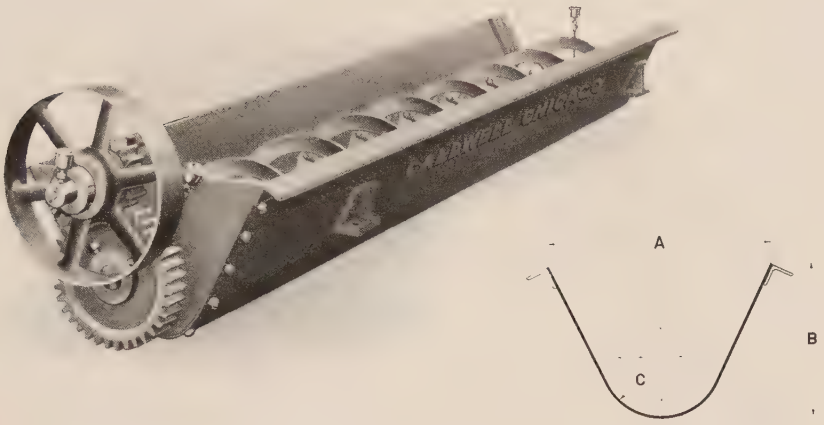


Fig. 45130. (*Acebadar*)

Flared Box is used mostly in sugar house work, in connection with ribbon conveyor. The dimensions given in the list below have been adopted as our standards, and we have patterns for box ends to fit troughs of these dimensions. Special flared trough of practically any dimension can be furnished to suit particular conditions. Prices on special trough will be quoted on application.

Box Ends for Flared Box are shown on pages 74 and 75.

Price List, Subject to Discount

Diameter Conveyor, Inches	Gauge of Steel	Price per Foot	CODE WORD	DIMENSIONS, INCHES			
				A	B	C	Size of Angles
9	14	$ 4.00	Letifiques	18	14	5	1½x1½x3/16
9	12	5.00	Letiziammo				1½x1½x3/16
9	10	6.00	Letiziando				2 x2 x3/16
12	14	4.75	Letiziassi	24	18½	6½	2 x2 x3/16
12	12	5.75	Letiziato				2 x2 x3/16
12	10	7.25	Letiziava				2 x2 x3/16
12	3/16	9.75	Letogenes				2 x2 x¼
14	12	6.50	Letradas	24	18½	7½	2 x2 x3/16
14	10.	8.00	Letradura				2 x2 x3/16
14	3/16	10.50	Letreus				2 x2 x¼
16	10	8.50	Letrillas	24	18½	8½	2 x2 x¼
16	3/16	11.00	Letrille				2 x2 x¼
16	¼	13.50	Letrudo				2 x2 x¼
18	10	9.25	Letterale	26	21½	9½	2 x2 x¼
18	3/16	12.25	Letterbaas				2 x2 x¼
18	¼	15.50	Letterbord				2 x2 x¼
20	10	11.75	Letterdief	34	22½	10½	2 x2 x¼
20	3/16	14.75	Letteretta				2 x2 x¼
20	¼	18.00	Letterfout				2 x2 x¼

Cast Iron Conveyor Box

Fig. 45131. (*Accompt*)
Plain Cast Iron Box, with Flanges without Feet

Fig. 45132. (*Lignoulot*)
With Stub Discharge Spout, and Flanges with Feet

Cast Iron Conveyor Box

Cast Iron Conveyor Box is principally used for conveying materials which rapidly corrode or rust out a steel conveyor box. Cast Iron resists rust much better than steel, and the extra thickness of this type of box also increases its life.

Cast Iron Boxes are made up in short sections, with flanges cast on at the ends, either with or without feet. Angle flanges are also cast on the upper edge of the box, to stiffen it, and as a support for fastening the cover. Covers may be either of steel, or of cast iron. For prices of steel covers, see pages 102 and 103. Prices of cast iron covers below include the covers only in short sections, with bolts for fastening at each end.

Dimensions of Cast Iron Boxes inside are the same as given for the corresponding size of Steel Conveyor Box, see page 102.

Stub Discharge Spouts, as shown in Fig. 45132, can be furnished either with or without slide gate.

Price List, Subject to Discount

Diameter of Conveyor, Inches	CODE WORD For Plain Box	Price per Foot Plain Box	Price per Foot C. I. Cover	Price Each Stub Discharge Opening	Price Each Stub Discharge Opening with Slide	Thickness of Box, Inches	Maximum Length of Section
6	Lilienbeet	$ 9.00	$3.00	$ 7.50	$12.00	1/2	5 ft.
9	Iduandos	11.00	4.00	9.00	16.00	1/2	5 ft.
12	Iduantibus	15.00	5.00	11.00	21.00	9/16	5 ft.
14	Acefalo	20.00	5.75	13.00	25.00	11/16	5 ft.
16	Iduarent	27.00	6.50	15.00	30.00	11/16	5 ft.
18	Iduatorum	35.00	7.25	17.00	35.00	11/16	5 ft.

Channel Side Conveyor Box

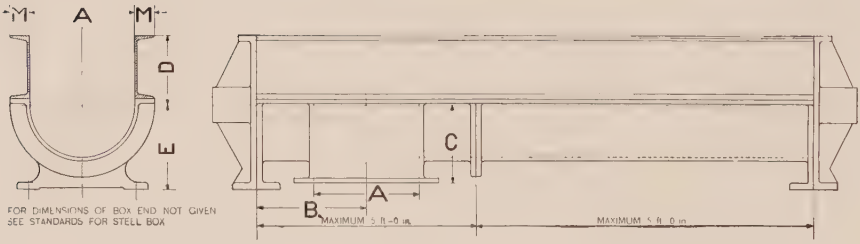


Fig. 45133. (*Lilybaeum*)

The Channel Side Conveyor Box is made with removable cast iron bottom plates. The hangers are fastened to the channel, so that the replacing of the bottom plates does not interfere with the adjustment of the conveyor, or make its removal necessary.

The cast iron bottom plates can be furnished with flanges with or without feet. Discharge openings, with or without slide gates, can be spaced as desired.

Prices upon application.

Dimensions, Inches

Diameter of Conveyor, Inches	CODE WORD	A	B	C	D	E	M
6	Limamento	7	7½	5	4½	5⅝	1⅝
9	Limandelle	10	10	7⅛	6⅛	7⅞	2
12	Limantimio	13	12½	8⅞	7¾	9⅝	2¼
14	Limatao	15	13½	10⅛	9¼	10⅞	2½
16	Limatezza	17	14½	11⅛	10⅝	12	2⅝
18	Limatode	19	16½	12⅜	12⅛	13⅜	3

Friction Drives for Conveyors

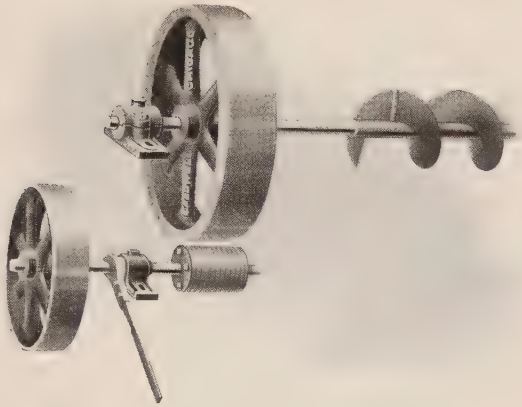


Fig. 45134. (*Acclamate*)

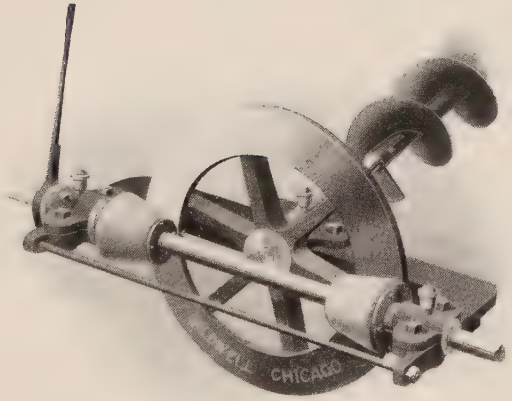


Fig. 45135. (*Ladholz*)

Where it is desired to throw a conveyor in and out of gear frequently, a friction drive is a convenient device for the purpose.

The spur friction drive, Figure 45134, is used where it is not necessary to change the direction or motion of the conveyor.

With the bevel friction drive, Figure 45135, the conveyor can be thrown in and out of gear, and the direction of motion can be reversed.

Steam-Jacketed Conveyor Box

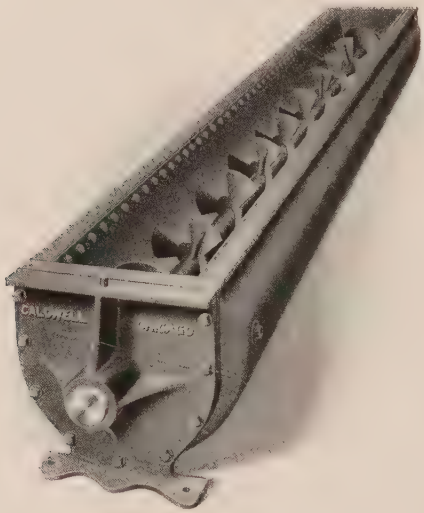


Fig. 45136. (*Dripade*)

Steam-Jacketed Conveyor Box is a very satisfactory means of drying material in transit under proper conditions. Low pressure steam is used, generally not exceeding 15 pounds pressure per square inch. The same heating effect is obtained with low pressure steam as with high pressure and the cost of the box is much less. A reducing valve can be used between the boiler and the Steam-Jacketed Box, to reduce the boiler pressure.

The length and size of box depends on the material used, and the percentage of moisture to be removed. We will be glad to make recommendations upon receipt of information as to the material, the amount of moisture to be removed, quantity of material to be handled, and the space available or the distance to be conveyed.

Water-Jacketed Conveyor Boxes are also furnished for the cooling of material in transit. They are of the same construction as the Steam-Jacketed Boxes. The water pressure should not be high, generally not exceeding 15 pounds.

Either Cut Flight Conveyor as shown in the cut, or regular Helicoid Conveyor or one of the various types of Paddle or Ribbon conveyors can be used, depending on the material carried.

Prices will be quoted upon receipt of information as to the work to be done.

Steam-Jacketed Conveyor Dryer

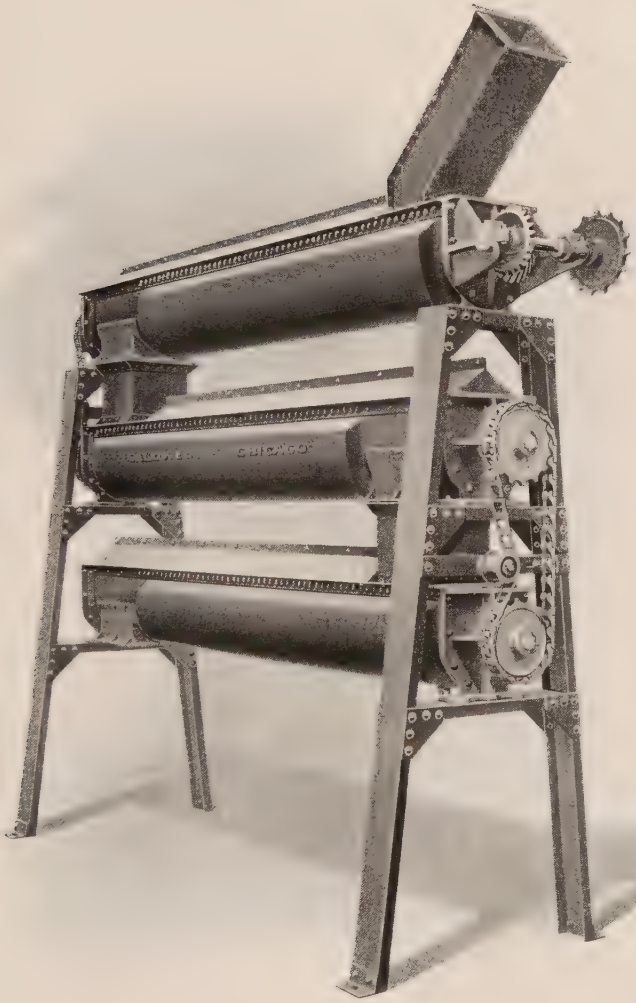


Fig. 45137. (*Lembunculo*)

Steam-Jacketed Conveyor can be arranged in batteries as shown above. The length of each conveyor and the speed can be changed to suit the material carried. The covers of the boxes are arranged with ventilating slots, permitting the moisture to escape.

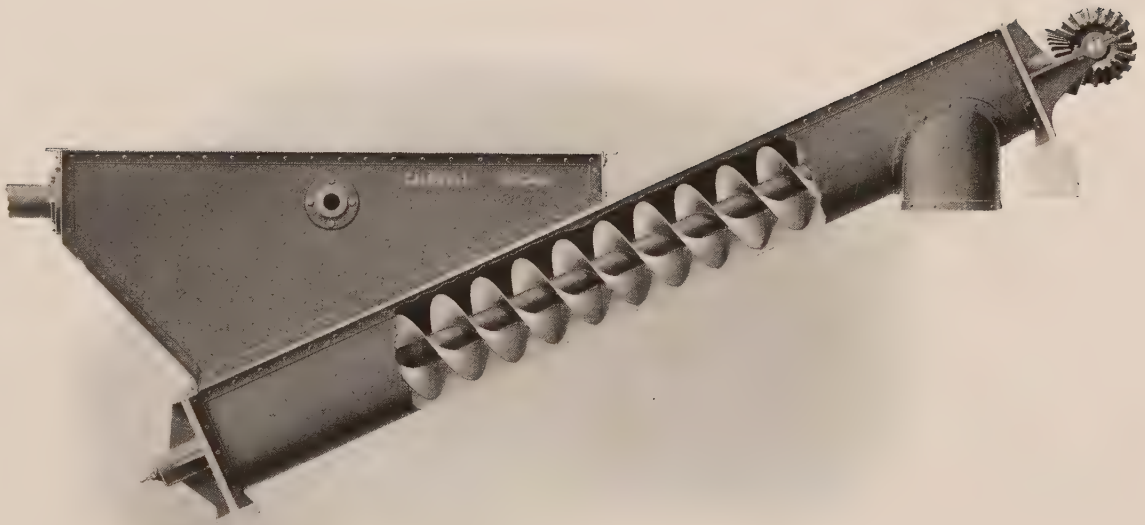


Fig. 45138. (*Ladislao*)

It is frequently convenient to use a screw conveyor on an incline to lift material while being conveyed. Generally speaking, conveyor can be used at an angle of 20° without noticeable loss of capacity.

It is generally advisable to run an inclined conveyor at slightly slower speed than a horizontal conveyor to avoid throwing material over the flights.

Vertical Conveyors

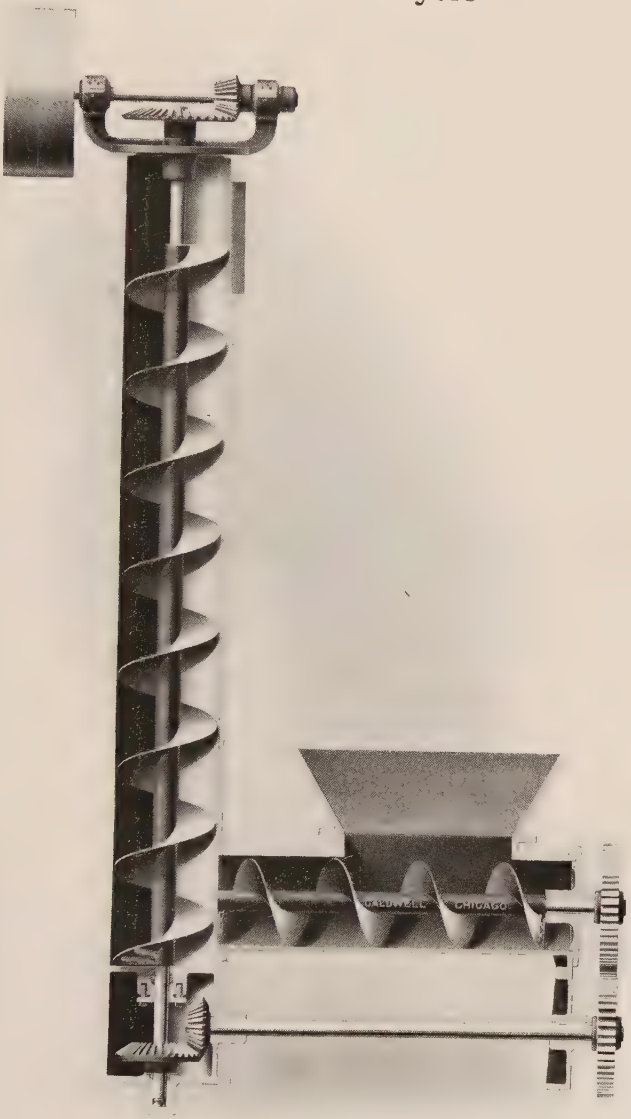


Fig. 45139. (*Ladinique*)

Screw Conveyors are used successfully in elevating certain classes of material which cling together, such as ground cork, cotton seed, etc. It is necessary to arrange for a continuous feed into the bottom of the conveyor, and the conveyor must be assembled without intermediate bearings. In some cases it is also necessary to provide a conveyor with shorter pitch than standard.

We will be pleased to give advice upon the use of such conveyors.

Helicoid Conveyor in Steel Box, on Steel Bridge. Complete equipment, including Bridge, made in our shops

Elevators and Helicoid Conveyors, All-Steel Construction

Belt Elevators

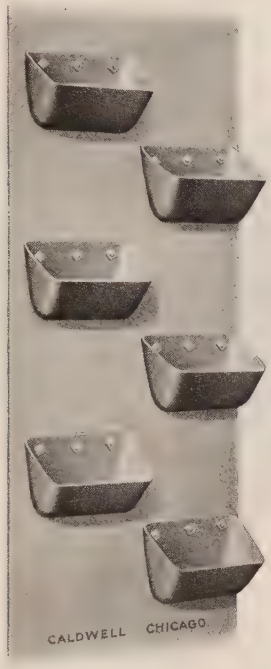


Fig. 45140. (*Lilinorum*)
Double Row Belt Elevator

Belt Elevators are particularly suitable for elevating grain, flour and other easily handled materials. They can be run at much higher speed than chain elevators, only being limited by the speed at which satisfactory discharge can be obtained.

Where large capacities are desired, instead of using wide buckets, the buckets are occasionally spaced in double rows, as shown in Fig. 45140. The space between buckets in each row is the same as if a single row of buckets were used.

For elevating flour and similar material, light steel and tin buckets of the type of the Tin Mill Buckets and Riveted Buckets on page 139 are used, and also the lighter gauges of Salem Buckets.

For grain the Caldwell Seamless Buckets, Salem Buckets, and Minneapolis V Buckets are particularly suitable. Cottonseed is somewhat harder to handle than grain, and the Caldwell Seamless Bucket is preferred over almost any other bucket in cottonseed oil mills.

For capacities of elevators and horse power required, see page 125.

Single Strand Link-Belt Elevator

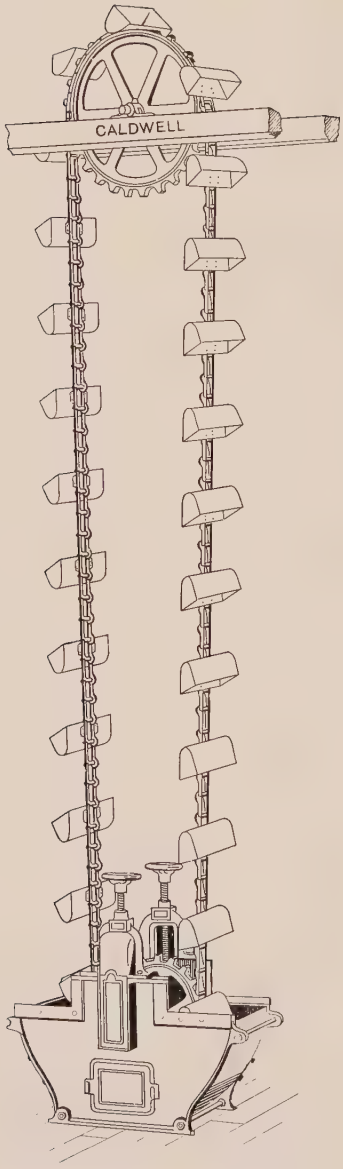


Fig. 45141. (*Lacunabit*)

Fig. 45142. (*Agramador*)

Use single strand elevators for buckets 12 inches wide and smaller.

Use chains with wide links, rather than narrow links, as the attachments hold the bucket better.

Use K1 or K2 attachments, the difference being in the number of holes. The attachment shown is K2. Both attachments are not made for all chains.

For very heavy work, use one of the heavier types of chains, such as Combination Malleable Iron and Steel Chain or Ley Bushed Chain.

Always make the drive chain lighter than the elevator chain. In case of a choke up or accident, it is easier to repair the drive chain than a broken elevator chain.

Double Strand Link-Belt Elevator

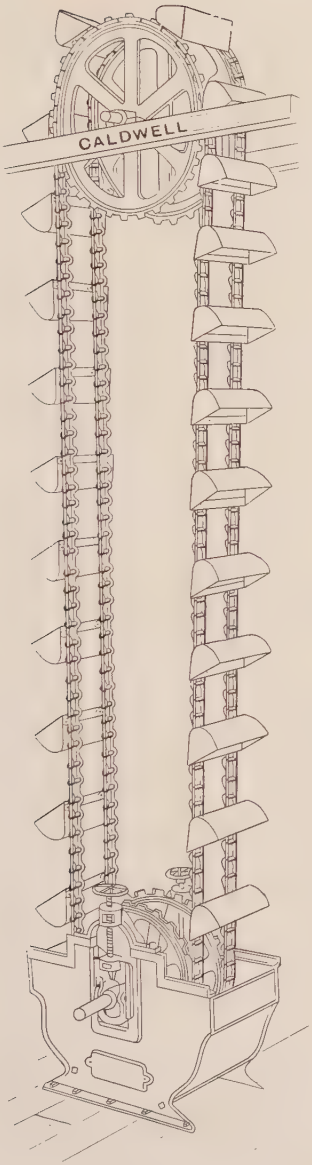


Fig. 45143. (*Lacunabunt*)

Fig. 45144. (*Agramunt*)

Double Strand Elevators should not be used for buckets smaller than 12 inch.

The sprocket wheels on head shaft should be *keyed* on with sprocket teeth exactly in line.

One of the sprockets on the boot shaft should be keyed or set screwed. The other sprocket should run loose between set collars. This keeps the buckets level, and avoids difficulty with uneven loading of chains.

For very heavy work and large buckets, use one of the heavier types of chain, such as Combination Malleable Iron and Steel Chain or Ley Bushed Chain.

Chain Elevators can not be run at as high speeds as belt elevators.

Perfect Discharge Link-Belt Elevator

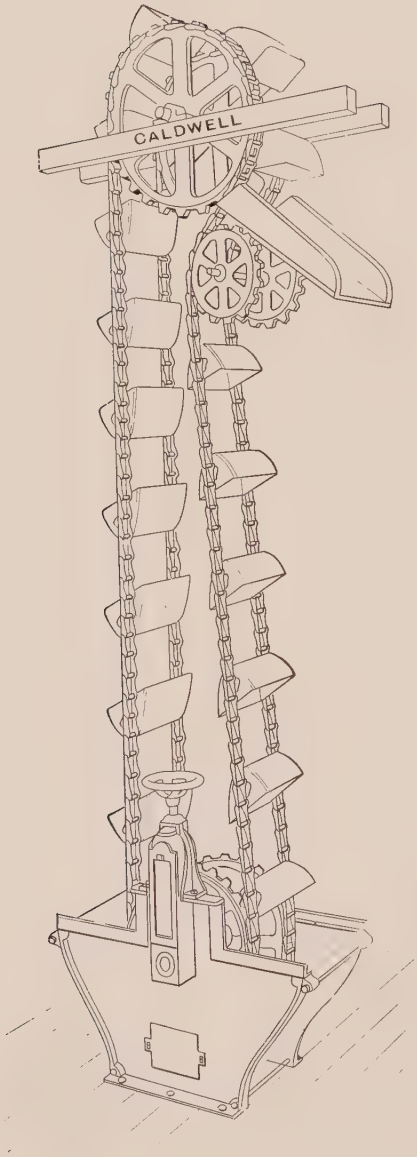


Fig. 45145. (*Agrandir*)

This type of elevator is recommended for handling material that would break if thrown from an ordinary centrifugal elevator, as it runs at a relatively slow speed and drops the material instead of throwing it from the buckets.

In passing around the wheels at the head of the elevator, the buckets are inverted, making a clean delivery of their contents and preventing the carrying back of any material, which would cling to the buckets of the ordinary type of elevator.

Bucket Elevators

Standard Specifications for Grain Elevators Using Belting and Salem or Avery Elevator Buckets

Size of Buckets, Inches	Capacity of One Bucket, Cubic Inches	Distance Apart, Center to Center, Inches	Diameter of Head Pulley, Inches	Speed of Head Shaft, R. P. M.	Speed of Belt, Feet per Minute	Cubic Feet, per Hour	Bushels, per Hour
2 x2	3 7	10	16	48	200	23	18
2½x2½	6	10	16	48	200	37	30
3 x3	13	10	18	45	215	87	69
3½x3	15	10	18	45	215	99	80
4 x3	17	12	20	45	225	99	80
4½x3½	26	12	20	45	225	151	122
5 x4	33	12	20	45	225	192	155
5½x4	36	12	24	40	250	234	189
6 x4	40	12	24	40	250	264	213
7 x4½	72	12	24	40	250	468	379
8 x5	96	16	30	38	300	562	453
9 x5½	126	16	30	38	300	738	595
10 x5½	140	16	30	38	300	820	661
11 x6	193	16	40	34	360	1350	1090
12 x6½	235	16	40	34	360	1650	1330
14 x6½	273	16	48	32	400	2132	1719
16 x6½	312	16	48	32	400	2437	1965
18 x7	410	16	54	32	450	3603	2903
18 x7	410	16	72	27	600	4809	3878
20 x7	455	16	60	32	500	4443	3582
20 x7	455	16	72	27	600	5331	4300
24 x8	685	16	72	27	600	8100	6530

Capacities of Chain Bucket Elevators Per Hour

Using Style "A" Malleable Iron Buckets

Chain speed 100 feet per minute; constant feed; handling cement, stone, coal, etc.

Size of Bucket, Inches	Approx. Capacity of One Bucket, Cubic Inches	SPACING OF BUCKETS, (CENTER TO CENTER)			
		12"	14"	16"	18"
		In Cubic Feet	In Cubic Feet	In Cubic Feet	In Cubic Feet
4x 2¾	16	41	36	31	28
5x 3½	36	93	80	70	62
6x 4	55	143	122	107	95
7x 4½	85	220	188	165	147
8x 5	115	299	256	224	199
10x 6	204	531	455	399	354
11x 6	223	570	497	427	380
12x 6	246	640	549	480	426
12x 7	332	...	740	648	576
14x 7	391	.	872	763	678
14x 8	509	...	1135	994	879
15x 7	425	...	948	830	737
16x 7	467	. .	1041	912	814
16x 8	593	. .	1327	1158	1029
18x 8	668	...	1490	1304	1159
18x10	1053	...	....	....	1832

Horse-power of Bucket Elevators

To figure the approximate horse-power of a bucket elevator, find the weight per minute of the material elevated by multiplying the number of cubic feet per minute times the weight per cubic foot. Multiply the weight lifted per minute by the distance between centers of the elevator and divide by 33,000. To the result so obtained add approximately 100% for friction, and the final result will be the approximate horse-power required to drive the elevator.

Gravity Discharge Elevator Conveyor

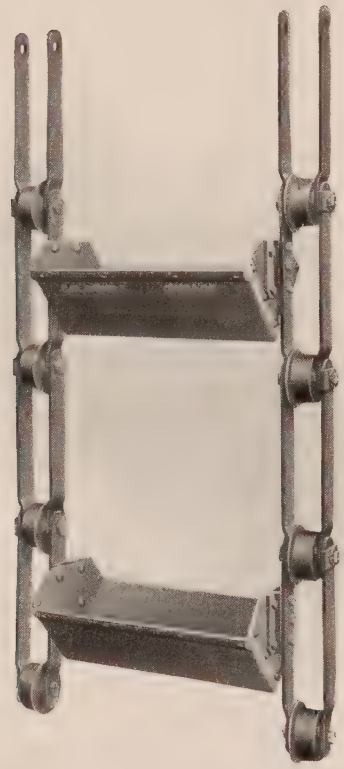


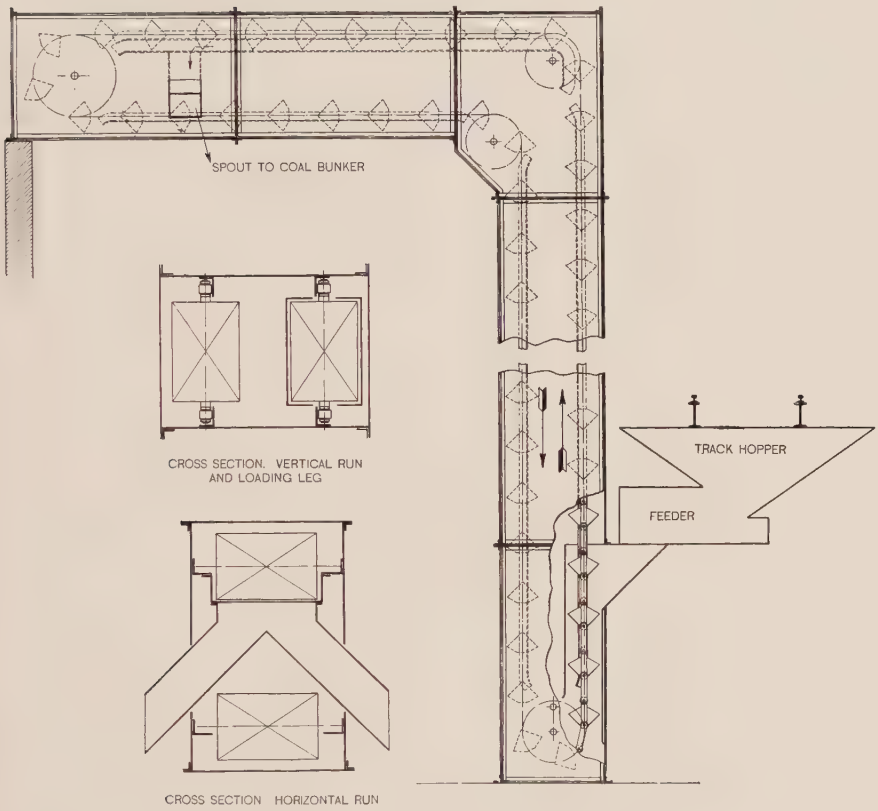
Fig. 45146. (*Lacunamus*)

This type of elevator is used to carry material both vertically and horizontally. When carrying horizontally the buckets act as drag flights, in a steel trough, and discharge through openings in the trough.

Long pitch steel chain, of the type shown above, and heavy steel buckets are used. Price list and standard sizes of buckets are given on page 148.

We will be pleased to quote prices upon complete elevators upon receipt of information as to the material carried, capacity desired, size of lumps, distance to be elevated and conveyed, kind of power available, etc.

Gravity Discharge Elevator Conveyors



The sketch above shows a typical installation of a Gravity Discharge Elevator Conveyor. These conveyors are used largely in handling coal in boiler houses, receiving the coal from track hoppers through feeders and carrying it over the bunkers. The type of chain and buckets used is shown on the preceding page.

We will be pleased to design and quote prices on this type of conveyor to suit any conditions.

Caldwell Stone Elevators

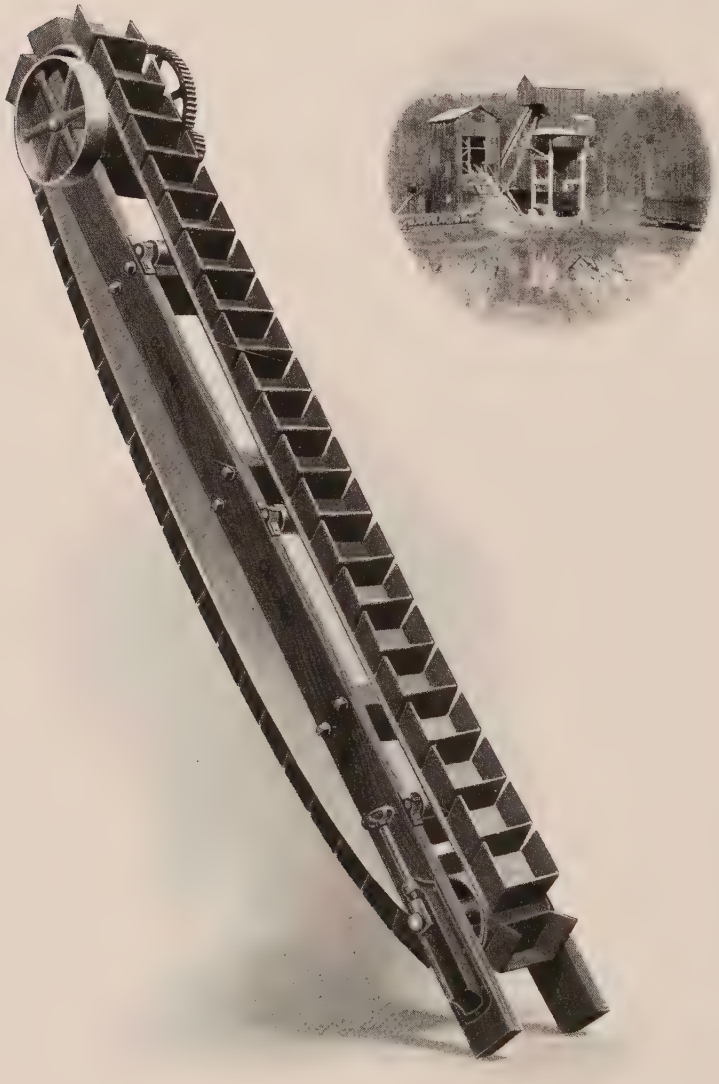
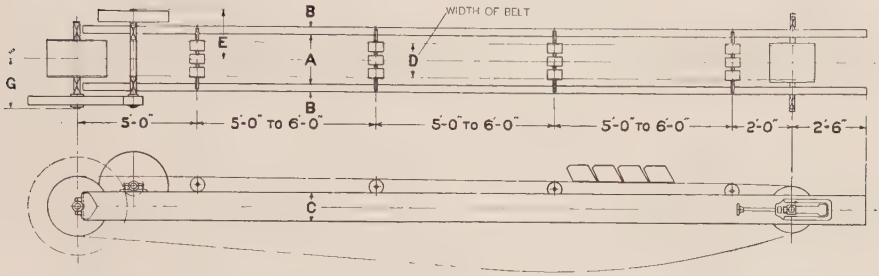


Fig. 45147. (*Lancier*)

This type of elevator is used with stone crushing plants, gravel plants, and in similar work. The buckets are of heavy steel, Style G or Style L, as shown on page 150, and the belt is generally a heavy rubber belt. The rollers supporting the belt are similar to those used with flat belt conveyors.

We can furnish this elevator complete with wood frame as shown or simply the iron work and belt with buckets. Prices will be quoted upon receipt of information as to material to be handled, capacity desired, height to be elevated, etc.

Caldwell Standard Stone Elevators



Specifications

Size	Centers of Elevator, Feet	Size and Gauge of Buckets	Maximum Capacity per Hour		Horse Power Required	Rev. per Minute	
			Cubic Feet	Tons		Head Shaft	Counter Shaft
2	30 to 70	9 x 6 x 9	1200	60	5	32	160
	70 to 100	No. 14			6		
4	30 to 70	13 x 7 x 10	2120	106	7	32	160
	70 to 100	No. 14			10		
5	30 to 70	16 x 8 x 11	3240	162	10	27	162
	70 to 100	No. 12			15		
6	Up to 30	18 x 9 x 12	4300	215	6	23	161
	30 to 70	No. 12			14	23	161
	70 to 100				20	23	138

Dimensions

Size	Centers of Elevator, Feet	Size of Shafts			Size of Pulleys			Number of		G Ins.
		Head	Counter	Boot	Head	Boot	Drive	Gear	Pinion	
2	30 to 70	$2\frac{7}{16}$"x2' 7"	$2\frac{7}{16}$"x2' $11\frac{1}{2}$"	$2\frac{7}{16}$"x2' $11\frac{1}{4}$"	24x$10\frac{1}{2}$	18x12	24x$5\frac{1}{2}$	10100	10020	$18\frac{1}{4}$
	70 to 100	$2\frac{7}{16}$"x2' 7"	$2\frac{7}{16}$"x2' $11\frac{1}{2}$"	$2\frac{7}{16}$"x2' $11\frac{1}{4}$"			24x$5\frac{1}{2}$	10100	10020	$18\frac{1}{4}$
4	30 to 70	$2\frac{7}{16}$"x2' 11"	$2\frac{7}{16}$"x3' 4"	$2\frac{7}{16}$"x3' $3\frac{1}{4}$"	24x$14\frac{1}{2}$	18x16	28x$4\frac{1}{2}$	10100	10020	$20\frac{1}{4}$
	70 to 100	$2\frac{7}{16}$"x2' 11"	$2\frac{7}{16}$"x3' 4"	$2\frac{7}{16}$"x3' $3\frac{1}{4}$"			28x$6\frac{1}{2}$	11090	11015	$20\frac{1}{4}$
5	30 to 70	$2\frac{15}{16}$"x3' 6"	$2\frac{7}{16}$"x3' $10\frac{1}{2}$"	$2\frac{7}{16}$"x3' $7\frac{1}{4}$"	30x$18\frac{1}{2}$	20x20	32x$6\frac{1}{2}$	12090	12015	$24\frac{1}{4}$
	70 to 100	$2\frac{15}{16}$"x3' 6"	$2\frac{15}{16}$"x4' 2"	$2\frac{7}{16}$"x3' $7\frac{1}{4}$"			32x$8\frac{1}{2}$	12090	12015	$24\frac{1}{4}$
6	Up to 30	$2\frac{7}{16}$"x3' $7\frac{1}{2}$"	$2\frac{7}{16}$"x4' 0"	$2\frac{7}{16}$"x4' 1"	36x21	24x22	36x$5\frac{1}{2}$	11105	11015	$24\frac{1}{4}$
	30 to 70	$2\frac{15}{16}$"x3' $10\frac{1}{2}$"	$2\frac{15}{16}$"x4' 7"	$2\frac{7}{16}$"x4' 1"			36x$8\frac{1}{2}$	12105	12015	$26\frac{1}{2}$
	70 to 100	$3\frac{7}{16}$"x4' $0\frac{1}{2}$"	$2\frac{15}{16}$"x4' 9"	$2\frac{7}{16}$"x4' 1"			36x$10\frac{1}{2}$	14090	14015	$27\frac{1}{2}$

Dimensions, Inches

Size	A	B	C	D	E	Ply of Belt When Centers are			
						30 Ft.	30 to 50 Ft.	50 to 75 Ft.	75 to 100 Ft.
2	16	3	$11\frac{1}{2}$	10	13	5	5	6	8
4	20	3	$11\frac{1}{2}$	14	15	6	6	8	8
5	24	3	$11\frac{1}{2}$	18	18	6	6	8	10
6	27	$3\frac{3}{4}$	$13\frac{1}{2}$	20	21	6	6	8	10

Overlapping Continuous Bucket Elevator

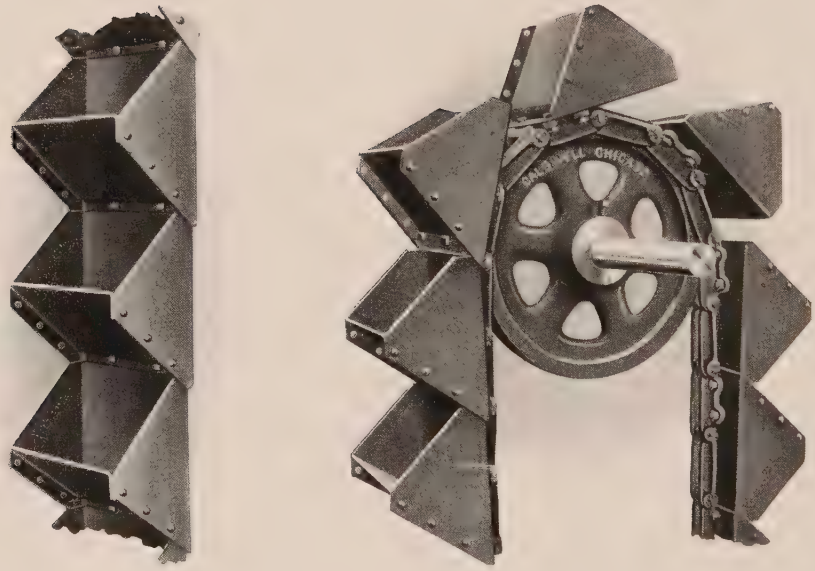


Fig. 45148. (*Agrarianly*)

Overlapping Continuous Buckets differ from the regular Style D Continuous Buckets, as shown on page 151, in that the sides of the bucket are slightly tapering, which makes the width cross the belt greater at the bottom than the top, and permits the buckets to overlap. The chain used with these buckets must be of the proper pitch to allow them to overlap from ¼ to ½ inch.

As there is no space between the buckets, the chain is protected from gritty material. The trough shape of the front of the bucket acts as a discharge spout at the head, throwing the material clear of the buckets at low speeds.

Overlapping Buckets are slightly more expensive than the regular Style D Bucket. The same list is used for both styles but the discount is different. List is given on pages 152 and 153.

Loading Legs

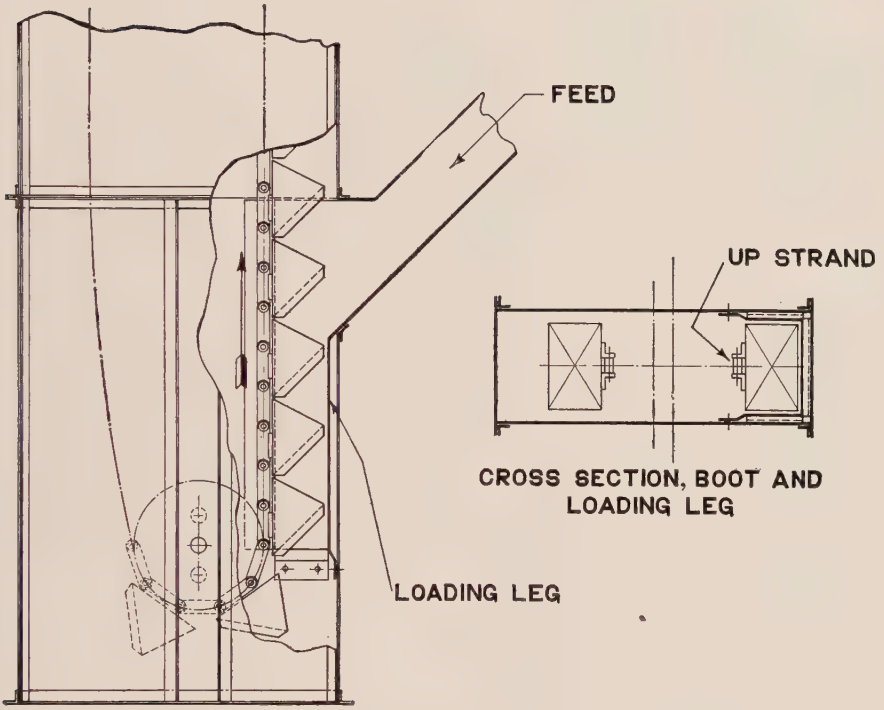


Fig. 45149. (*Limbilite*)

In handling stone and other coarse materials, it is difficult to use the ordinary elevator boot satisfactorily. The wear on the buckets caused by digging into the material is excessive, and with large lumps the buckets often are torn from the chain or belt. For such elevators we recommend the use of the Loading Leg construction shown in diagram above.

The wear on the buckets is greatly reduced and the power required is less. This type of leg requires the use of Continuous Steel Buckets, similar to Style D, page 151. The gate on the loading spout should be so regulated that the buckets can easily take away all of the material passing through.

The Caldwell Corrugated Seamless Elevator Bucket

Fig. 45150. (*Lachanizo*)

The Caldwell Seamless Bucket is offered as the Perfect Elevator Bucket. It has no seams to open, no rivets to wear off, and no bands to come loose. The ribs or corrugations pressed into the bucket stiffen it, and act as braces, making unnecessary the use of braces across the top of the bucket, which seriously interfere with the take and discharge of the material. Due to the rounded corners and bottom, this bucket will discharge perfectly at a higher rate of speed than the ordinary bucket, and it has often given satisfaction in the place of square cornered buckets that were working badly.

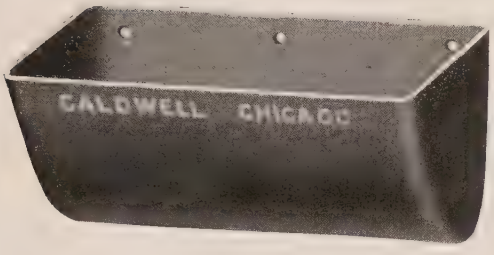
The Caldwell Seamless Bucket is carried in stock in the sizes named. No other sizes are made, nor can they be made on account of the expense of the necessary equipment.

Price List, Subject to Discount

Size			Price Each	CODE WORD	Gauge of Steel	Capacity, Cubic Inches
Width on Belt, Inches	Projection "A," Inches	Length "B" on Belt, Inches				
8	5	4	$0.60	Kappa	18	64
9	5½	4⅜	.75	Lamda	18	97
10	5½	4⅝	.80	Mu	18	119
11	6	5¼	1.05	New	18	143
12	6½	5¼	1.25	Omicron	18	176
14	6½	5⅜	1.85	Psi	16	219
16	6½	5¾	2.10	Qui	16	259
18	7	6¼	2.70	Ro	15	349

Prices on Galvanized Buckets on application.

The Caldwell Heavy Seamless Elevator Bucket



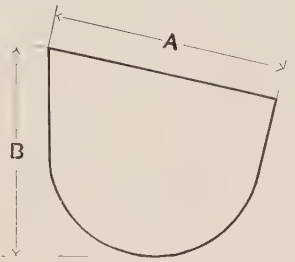


Fig. 45151. (*Lachbaum*)

For handling heavier material than grain or cottonseed, we recommend the Caldwell Heavy Seamless Bucket. It is lighter and stronger than the Malleable Iron Bucket, and more durable. The corners and bottom are rounded and the bucket shaped for perfect discharge. There are no seams to open, no rivets to wear off and no bands to come loose. Because of the heavier gauge of metal used the corrugations or ribs are not necessary with this bucket nor are cross braces required.

The Caldwell Heavy Seamless Bucket is carried in stock in the sizes named. No other sizes are made, nor can they be made to order on account of the expense of the necessary equipment.

Price List, Subject to Discount

Size			Price Each	CODE WORD	Gauge of Steel	Capacity, Cubic Inches
Width on Belt, Inches	Projection "A," Inches	Length on Belt "B," Inches				
6	4	3¾	$0.60	Inter	16	42
7	4½	3¾	.65	Joke	16	56
8	5	4	.90	Koko	14	74
9	5½	4½	1.10	Late	14	97
10	5½	4¾	1.35	Made	14	117
11	6	4¾	1.65	Note	14	151
12	6½	5⅛	2.40	Oak	12	191
14	6½	5¼	2.80	Pull	12	232
16	6½	5⅝	3.30	Quick	12	258
18	7	6¼	4.10	Rook	12	342

Prices on Galvanized Buckets on application.

Salem Elevator Buckets

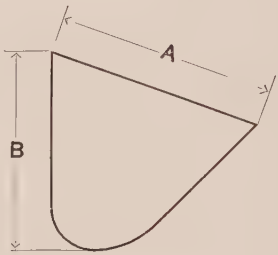


Fig. 45152. (*Lacetanos*)

The Salem Elevator Bucket is made in a wide variety of sizes and gauges of metal. It is made from one piece of material, with round bottom and corners. The side piece is bent around the back and riveted. The seams at the lower corners of the bucket are bent under and hammered tight. There is no reinforcement along the front edge of the bucket.

The Salem Bucket can be furnished galvanized at additional charge.

Price List, Subject to Discount

Size of Bucket, Inches		CODE WORD For Size	REGULAR		HEAVY				
					Price Each				
Length Across Belt	Projection A		Gauge of Steel	Price Each	Gauge 18	Gauge 16	Gauge 14	Gauge 12	Gauge 10
2	2	Ache	No. 25	$0.10	$0.15	.....	.....	.....	.....
2½	2	Acheminer	" 25	.10	.18	.....	.....	.....	.....
2½	2¼	Acheteur	" 24	.10	.20	.....	.....	.....	.....
2½	2½	Achicoria	" 24	**.10**	**.20**	.....	.....	.....	.....
3	1½	Zaragotoa	" 25	.10	.15	.....	.....	.....	.....
3	2	Achievance	" 25	.15	.20	.....	.....	.....	.....
3	2¼	Aching	" 24	.10	.20	.....	.....	.....	.....
3	2½	Achromatic	" 24	**.10**	**.20**	.....	.....	.....	.....
3	3	Achulado	" 22	**.10**	.....	**$0.31**	.....	.....	.....
3½	2	Achieve	" 25	.15	.21	.....	.....	.....	.....
3½	2¼	Zampare	" 24	.10	.21	.....	.....	.....	.....
3½	2½	Acicular	" 24	**.10**	**.23**	.....	.....	.....	.....
3½	3	Acidified	" 23	**.10**	.....	**.31**	.....	.....	.....
3½	3½	Acidimeter	" 22	.15	.....	.36	$0.39	.....	.....
4	2¼	Acidness	" 24	.15	.23	.....	.....	.....	.....
4	2½	Acidulate	" 24	.15	.25	.....	.....	.....	.....
4	3	Acierie	" 22	**.15**	.....	**.35**	.....	.....	.....
4	3½	Aciurgy	" 22	**.15**	.....	**.38**	**.41**	.....	.....
4	4	Aclocad	" 22	.22	.....	.45	.49	$0.67	.....
4½	2¼	Zarathan	" 24	.15	.25	.....	.....	.....	.....
4½	2½	Zealless	" 24	.16	.30	.....	.....	.....	.....
4½	3	Acodala	" 22	**.15**	.....	**.39**	.....	.....	.....
4½	3½	Acolchar	" 22	**.15**	.....	**.40**	**.43**	.....	.....
4½	4	Acology	" 22	.23	.....	.46	.50	.69	.....
4½	4½	Acolothist	" 20	.27	.....	.50	.54	.75	$0.92
5	2¼	Acolyte	" 24	.15	.30	.....	.....	.....	.....
5	2½	Zealot	" 24	.16	.34	.....	.....	.....	.....

Salem Elevator Buckets—Continued

Price List, Subject to Discount

Size of Bucket, Inches		CODE WORD For Size	REGULAR		HEAVY					
					Price Each					
Length Across Belt	Projection A		Gauge	Price Each	Gauge 16	Gauge 14	Gauge 12	Gauge 10	Gauge 8	Gauge 6
5	3	Acometoda	No.22	$0.18	$0.43	.....	.....	.....	.....	.....
5	3½	Aconite	" 22	.19	**.44**	**$0.47**	.....	.....	.....	.....
5	4	Acopar	" 20	.19	**.48**	**.51**	$0.71	.....	.....	.....
5	4½	Acopetado	" 20	.28	.51	.55	.76	$0.94	.....	.....
5	5	Acorn	" 19	.40	.53	.57	.78	.97	$1.14	$1.31
5½	3	Zealotical	" 22	.18	.44	.....	.....	.....	.....	.....
5½	3½	Acoustic	" 22	.21	.45	.49	.....	.....	.....	.....
5½	4	Acosador	" 20	**.22**	**.49**	**.53**	.73	.....	.....	.....
5½	4½	Ansio	" 20	.29	.53	.57	.78	.97	.....	.....
5½	5	Acquirable	" 19	.41	.54	.58	.80	.98	1.16	1.34
5½	5½	Acquirer	" 19	.45	.59	.63	.87	1.08	1.27	1.46
6	3	Acquisite	" 22	.20	.45	.....	.....	.....	.....	.....
6	3½	Acquist	" 22	.21	.48	.51	.....	.....	.....	.....
6	4	Acrobat	" 20	**.22**	**.50**	**.54**	.75	.....	.....	.....
6	4½	Acrogen	" 20	.30	.54	.58	.80	.98	.....	.....
6	5	Acronycal	" 19	.43	.55	.59	.82	1.01	1.19	1.38
6	5½	Acrostic	" 19	.46	.60	.65	.89	1.10	1.30	1.50
6	6	Actingly	" 18	.60	.65	.70	.97	1.20	1.41	1.63
6½	3	Zedoary	" 22	.22	.46	.....	.....	.....	.....	.....
6½	3½	Zeladora	" 22	.23	.49	.52	.....	.....	.....	.....
6½	4	Zeolite	" 20	.27	.51	.55	.76	.....	.....	.....
6½	4½	Zerbineria	" 20	.32	.55	.59	.82	1.01	.....	.....
6½	5	Zervatana	" 19	.44	.59	.63	.87	1.08	1.27	1.46
6½	5½	Zibilina	" 19	.48	.64	.70	.95	1.17	1.38	1.59
6½	6½	Zimborio	" 18	.65	.81	.88	1.21	1.49	1.76	2.03
7	3	Actively	" 22	.24	.48	.....	.....	.....	.....	.....
7	3½	Actionary	" 22	.25	.50	.54	.....	.....	.....	.....
7	4	Activeness	" 20	.30	.53	.57	.78	.....	.....	.....
7	4½	Actor	" 20	**.30**	**.56**	**.60**	.83	1.03	.....	.....
7	5	Actress	" 19	.45	.60	.65	.89	1.10	1.30	1.50
7	5½	Actuality	" 19	.49	.65	.70	.97	1.20	1.41	1.63
7	6	Actuary	" 18	.63	.70	.76	1.04	1.29	1.52	1.75
7	6½	Zinepro	" 18	.70	.83	.89	1.23	1.52	1.79	2.06
7	7	Actuate	" 18	.83	.95	1.03	1.42	1.75	2.06	2.38
7½	3	Zinkenite	" 22	.25	.49	.....	.....	.....	.....	.....
7½	3½	Zirconium	" 22	.25	.51	.55	.....	.....	.....	.....
7½	4	Aculeate	" 20	.33	.54	.58	.80	.....	.....	.....
7½	4½	Aculeous	" 20	.36	.58	.62	.86	1.06	.....	.....
7½	5	Acumen	" 19	.46	.61	.66	.91	1.12	1.32	1.53
7½	5½	Acuminated	" 19	.50	.66	.71	.98	1.21	1.43	1.65
8	3	Zoccolata	" 22	.25	.50	.....	.....	.....	.....	.....
8	3½	Acute	" 22	.28	.53	.57	.....	.....	.....	.....
8	4	Acuteness	" 20	.35	.55	.59	.82	.....	.....	.....
8	4½	Adacted	" 20	.38	.59	.63	.87	1.08	.....	.....
8	5	Adafina	" 19	**.38**	**.63**	**.68**	.93	1.15	1.36	1.56
8	5½	Adage	" 19	.53	.68	.73	1.01	1.24	1.47	1.69
8	6	Adalia	" 18	.65	.73	.78	1.08	1.33	1.57	1.81
8	6½	Zodiac	" 18	.75	.85	.92	1.27	1.56	1.85	2.13
8	7	Adamant	" 18	.88	.98	1.05	1.45	1.79	2.12	2.44
8	8	Adamantean	" 18	1.00	1.23	1.32	1.83	2.25	2.66	3.06
8½	3	Zolfatea	" 22	.28	.53	.....	.....	.....	.....	.....
8½	3½	Zoneless	" 22	.30	.60	.65	.....	.....	.....	.....
8½	4	Adamite	" 20	.38	.63	.68	.93	.....	.....	.....
8½	4½	Adaptation	" 20	.40	.66	.71	.98	1.21	.....	.....
8½	5	Adapter	" 19	.48	.70	.76	1.04	1.29	1.52	1.75

Salem Elevator Buckets—Continued

Price List, Subject to Discount

Size of Bucket, Inches		CODE WORD For Size	REGULAR		HEAVY					
					Price Each					
Length Across Belt	Projection A		Gauge	Price Each	Gauge 16	Gauge 14	Gauge 12	Gauge 10	Gauge 8	Gauge 6
8½	5½	Adargazo	No. 19	$0.55	$0.75	$0.81	$1.12	$1.38	$1.63	$1.88
9	3	Zoocarpia	" 22	.30	.58	.....	.....	.....	.....	.....
9	3½	Zoological	" 22	.33	.65	.70	.....	.....	.....	.....
9	4	Adarguilla	" 20	.40	.68	.73	1.01	.....	.....	.....
9	4½	Adatis	" 20	.45	.71	.77	1.06	1.31	.....	.....
9	5	Addeem	" 19	.40	.75	.81	1.12	1.38	1.63	1.88
9	5½	Adderdem	" 19	.58	.80	.87	1.19	1.47	1.74	2.00
9	6	Adder	" 18	.68	.85	.92	1.27	1.56	1.85	2.13
9	6½	Zoologist	" 18	.80	.98	1.05	1.45	1.79	2.12	2.19
9	7	Addibility	" 18	.93	1.10	1.19	1.64	2.02	2.39	2.75
9	8	Addible	" 18	1.05	1.35	1.46	2.01	2.48	2.93	3.38
9½	4	Zoophite	" 20	.45	.70	.76	1.04	.....	.....	.....
9½	4½	Addict	" 20	.50	.74	.79	1.10	1.35	.....	.....
9½	5	Addiction	" 19	.50	.78	.84	1.15	1.43	1.68	1.94
9½	5½	Addictive	" 19	.61	.83	.89	1.23	1.52	1.79	2.06
10	4	Zootomist	" 20	.46	.75	.81	1.12	.....	.....	.....
10	4½	Addle	" 20	.51	.79	.85	1.17	1.44	.....	.....
10	5	Addlings	" 19	.55	.81	.88	1.21	1.49	1.76	2.03
10	5½	Addresseth	" 19	.48	.86	.93	1.28	1.58	1.87	2.15
10	6	Addressing	" 18	.55	.91	.98	1.36	1.67	1.98	2.28
10	6½	Adduce	" 18	.85	1.04	1.12	1.54	1.90	2.25	2.59
10	7	Adducent	" 18	.75	1.16	1.25	1.73	2.13	2.52	2.90
10	8	Adducible	" 18	1.11	1.41	1.52	2.10	2.59	3.06	3.53
11	4	Vadimonis	" 20	.48	.80	.87	1.19	.....	.....	.....
11	4½	Aducatist	" 20	.53	.84	.90	1.24	1.53	.....	.....
11	5	Adefueras	" 19	.60	.88	.95	1.30	1.61	1.90	2.19
11	5½	Adelantar	" 19	.65	.93	1.00	1.36	1.70	2.01	2.31
11	6	Adelfic	" 18	.63	.98	1.05	1.45	1.79	2.12	2.44
11	6½	Vaga	" 18	.90	1.10	1.19	1.64	2.02	2.39	2.75
11	7	Ademption	" 18	.85	1.23	1.32	1.83	2.25	2.66	3.06
11	8	Adenology	" 18	1.15	1.48	1.59	2.20	2.71	3.20	3.69
12	4	Vageni	" 20	.50	.85	.92	1.27	.....	.....	.....
12	4½	Adenotomy	" 20	.55	.89	.96	1.32	1.63	.....	.....
12	5	Adentellar	" 19	.65	.93	1.00	1.38	1.70	2.01	2.31
12	5½	Adept	" 19	.70	.98	1.05	1.43	1.79	2.12	2.44
12	6	Adequate	" 18	.70	1.03	1.11	1.53	1.89	2.22	2.56
12	6½	Vagesus	" 18	.95	1.15	1.24	1.71	2.12	2.50	2.88
12	7	Adequation	" 18	.90	1.28	1.38	1.90	2.35	2.77	3.19
12	8	Adestrador	" 18	1.20	1.53	1.65	2.27	2.81	3.30	3.81
13	6	Adherence	" 18	.85	1.04	1.12	1.54	1.90	2.25	2.59
13	6½	Vajetha	" 18	1.00	1.16	1.25	1.73	2.13	2.52	2.90
13	7	Adhesion	" 18	1.13	1.29	1.39	1.91	2.37	2.79	3.21
13	8	Adhesively	" 18	1.25	1.54	1.66	2.29	2.82	3.33	3.84
14	5	Valgdai	" 19	.70	1.03	1.11	1.53	1.89	2.22	2.56
14	6	Adhibit	" 18	.80	1.05	1.13	1.56	1.93	2.28	2.63
14	6½	Valgius	" 18	1.05	1.18	1.27	1.75	2.16	2.55	2.94
14	7	Adhibition	" 18	.95	1.30	1.40	1.94	2.39	2.82	3.25
14	8	Adiphary	" 18	1.30	1.55	1.67	2.31	2.85	3.36	3.88
15	6	Adieu	" 18	.95	1.08	1.16	1.60	1.98	2.33	2.69
15	6½	Varnius	" 18	1.10	1.20	1.30	1.79	2.21	2.60	3.00
15	7	Adipous	" 18	1.23	1.33	1.43	1.97	2.44	2.88	3.31
15	8	Adit	" 18	1.35	1.58	1.70	2.35	2.90	3.42	3.94
16	5	Vashni	" 19	.75	1.13	1.22	1.68	2.07	2.44	2.81
16	6	Ajancy	" 18	.90	1.10	1.19	1.64	2.02	2.39	2.75
16	6½	Vasatoe	" 18	1.15	1.23	1.32	1.83	2.25	2.66	3.06

Salem Elevator Buckets—Continued

Price List, Subject to Discount

Size of Bucket, Inches		CODE WORD For Size	REGULAR		HEAVY					
					Price Each					
Length Across Belt	Projection A		Gauge	Price Each	Gauge 16	Gauge 14	Gauge 12	Gauge 10	Gauge 8	Gauge 6
16	7	Aject	No. 18	$1.33	$1.35	$1.46	$2.01	$2.48	$2.93	$3.38
16	8	Adjective	" 18	1.40	1.60	1.73	2.38	2.94	3.47	4.00
17	6	Adjoinant	" 18	1.05	1.13	1.22	1.68	2.07	2.44	2.81
17	6½	Vechires	" 18	1.20	1.25	1.35	1.86	2.30	2.71	3.13
17	7	Adjourn	" 18	1.33	1.38	1.49	2.05	2.53	2.98	3.44
17	8	Adjudge	" 18	1.45	1.63	1.76	2.42	2.99	3.53	4.06
18	6	Adjudicate	" 18	1.00	1.15	1.24	1.71	2.12	2.50	2.88
18	6½	Vedius	" 18	1.29	1.34	1.40	1.90	2.35	2.77	3.19
18	7	Adjument	" 18	1.38	1.40	1.51	2.09	2.58	3.04	3.50
18	8	Adjunct	" 18	1.50	1.65	1.78	2.46	3.03	3.57	4.13
19	6	Adjunctive	" 18	1.15	1.18	1.27	1.75	2.16	2.55	2.94
19	6½	Veleda	" 18	1.35	1.40	1.50	1.94	2.39	2.82	3.25
19	7	Adjuration	" 18	1.39	1.43	1.54	2.12	2.62	3.09	3.56
19	8	Adjure	" 18	1.60	1.68	1.81	2.50	3.08	3.64	4.19
20	6	Adjusted	" 18	1.10	1.20	1.30	1.79	2.21	2.60	3.00
20	6½	Velinum	" 18	1.45	1.50	1.55	1.97	2.44	2.88	3.31
20	7	Adjutant	" 18	1.40	1.45	1.57	2.16	2.67	3.15	3.63
20	8	Admetiate	" 18	1.60	1.70	1.84	2.53	3.13	3.69	4.25
21	6	Administer	" 18	1.25	1.35	1.40	1.86	2.30	2.71	3.13
21	6½	Veneti	" 18	1.55	1.60	1.65	2.05	2.53	2.98	3.44
21	7	Admiral	" 18	1.45	1.50	1.62	2.20	2.76	3.26	3.75
21	8	Admiralty	" 18	1.65	1.75	1.89	2.61	3.22	3.80	4.38
22	6	Admirance	" 18	1.30	1.40	1.50	1.94	2.39	2.82	3.25
22	6½	Venulus	" 18	1.65	1.70	1.75	2.12	2.62	3.09	3.56
22	7	Admiration	" 18	1.50	1.55	1.65	2.31	2.85	3.36	3.88
22	8	Admired	" 18	1.70	1.80	1.94	2.68	3.31	3.96	4.50
23	6	Admiringly	" 18	1.35	1.46	1.63	2.01	2.48	2.93	3.38
23	6½	Vergan	" 18	1.78	1.85	1.95	2.20	2.72	3.20	3.69
23	7	Admittance	" 18	1.55	1.60	1.73	2.38	2.94	3.47	4.00
23	8	Admitter	" 18	1.75	1.85	2.00	2.76	3.40	4.01	4.63
24	6	Admission	" 18	1.40	1.51	1.75	2.09	2.58	3.04	3.50
24	6½	Veretum	" 18	1.90	2.00	2.10	2.27	2.81	3.31	3.81
24	7	Conjects	" 18	1.60	1.65	1.78	2.46	3.03	3.58	4.13
24	8	Contiguity	" 18	1.80	1.90	2.05	2.83	3.50	4.12	4.75

Extra Size Salem Elevator Buckets

With Projection greater than 8 inches or Length across belt greater than 24 inches.

Price List, Subject to Discount

Size of Bucket, Inches		CODE WORD For Size	REGULAR		HEAVY					
					Price Each					
Length Across Belt	Projection A		Gauge	Price Each	Gauge 16	Gauge 14	Gauge 12	Gauge 10	Gauge 8	Gauge 6
9	9	Zoophoric	.....	.....	$1.70	$1.84	$2.53	$3.13	$3.69	$4.25
10	9	Vacca	.....	.....	1.79	1.93	2.66	3.28	3.87	4.46
10	10	Vadovero	.....	.....	2.16	2.33	3.22	3.97	4.69	5.40
11	9	Vagedrusa	.....	.....	1.85	2.00	2.76	3.40	4.01	4.63
11	10	Vagellius	.....	.....	2.23	2.40	3.32	4.09	4.83	5.55
12	9	Vahalis	.....	.....	1.90	2.05	2.83	3.50	4.12	4.75
12	10	Vacius	.....	.....	2.28	2.46	3.39	4.16	4.94	5.65

Extra Size Salem Elevator Buckets—Continued

With Projection greater than 8 inches or Length across belt greater than 24 inches.

Price List, Subject to Discount

Size of Bucket, Inches		CODE WORD For Size	REGULAR		HEAVY					
					Price Each					
Length Across Belt	Projection A		Gauge	Price Each	Gauge 16	Gauge 14	Gauge 12	Gauge 10	Gauge 8	Gauge 6
13	9	Valerus	.....	.....	$1.91	$2.06	$2.85	$3.51	$4.15	$4.78
13	10	Valgato	.....	.....	2.29	2.47	3.40	4.20	4.96	5.70
14	9	Vaniah	.....	.....	1.93	2.08	2.87	3.54	4.18	4.81
14	10	Vandalia	.....	.....	2.30	2.48	3.43	4.23	4.99	5.75
15	9	Varones	.....	.....	1.95	2.11	2.91	3.59	4.23	4.88
15	10	Vardaei	.....	.....	2.33	2.51	3.46	4.28	5.05	5.80
16	9	Vasarhely	.....	.....	1.98	2.13	2.94	3.63	4.29	4.94
16	10	Vascones	.....	.....	2.35	2.54	3.50	4.32	5.10	5.85
17	9	Vetius	.....	.....	2.00	2.16	2.98	3.68	4.34	5.00
17	10	Vectones	.....	.....	2.38	2.57	3.54	4.37	5.15	5.90
18	9	Vegetius	.....	.....	2.02	2.19	3.02	3.73	4.39	5.05
18	10	Veglia	.....	.....	2.40	2.59	3.58	4.42	5.20	6.00
19	9	Velia	.....	.....	2.05	2.21	3.05	3.77	4.45	5.10
19	10	Velebrio	.....	.....	2.43	2.62	3.61	4.46	5.25	6.05
20	9	Velites	.....	.....	2.08	2.24	3.09	3.82	4.50	5.15
20	10	Velitrae	.....	.....	2.45	2.65	3.65	4.50	5.30	6.10
21	9	Venloo	.....	.....	2.13	2.30	3.17	3.91	4.61	5.30
21	10	Vernones	.....	.....	2.50	2.70	3.73	4.60	5.40	6.25
22	9	Vepicus	.....	.....	2.18	2.35	3.24	4.00	4.72	5.40
22	10	Verdunia	.....	.....	2.55	2.75	3.80	4.65	5.50	6.35
23	9	Verania	.....	.....	2.23	2.40	3.32	4.09	4.83	5.55
23	10	Vercellae	.....	.....	2.60	2.81	3.87	4.78	5.60	6.50
24	9	Vergasil	.....	.....	2.28	2.46	3.39	4.19	4.94	5.65
24	10	Vergellus	.....	.....	2.65	2.86	3.95	4.88	5.75	6.60
25	8	Vergillia	No.18	$2.45	3.06	3.30	4.56	5.63	6.64	7.65
25	9	Verginius	.....	.....	3.81	4.11	5.68	7.01	8.27	9.53
25	10	Verginum	.....	.....	4.56	4.92	6.79	8.39	9.89	11.35
26	8	Continent	" 18	2.50	3.07	3.31	4.57	5.64	6.66	7.67
26	9	Vergobret	.....	.....	3.82	4.12	5.69	7.02	8.29	9.55
26	10	Verodocti	.....	.....	4.57	4.93	6.80	8.40	9.91	11.40
27	8	Veronica	" 18	2.55	3.09	3.33	4.60	5.67	6.69	7.71
27	9	Verrugo	.....	.....	3.84	4.14	5.71	7.05	8.32	9.59
27	10	Vertagus	.....	.....	4.59	4.95	6.83	8.43	9.95	11.45
28	8	Consort	" 18	2.60	3.10	3.34	4.62	5.70	6.71	7.75
28	9	Vegasus	.....	.....	3.85	4.15	5.73	7.08	8.35	9.62
28	10	Vesbius	.....	.....	4.60	4.96	6.85	8.46	9.98	11.50
29	8	Vescianus	" 18	2.65	3.13	3.37	4.66	5.75	6.77	7.81
29	9	Vescular	.....	.....	3.88	4.18	5.77	7.13	8.41	9.69
29	10	Veseris	.....	.....	4.63	4.99	6.89	8.51	10.04	11.55
30	8	Vesevas	" 18	2.70	3.15	3.40	4.69	5.79	6.83	7.87
30	9	Vesontis	.....	.....	3.90	4.21	5.81	7.17	8.46	9.75
30	10	Vesoul	.....	.....	4.65	5.02	6.92	8.55	10.10	11.60
31	9	Vestales	.....	.....	3.93	4.24	5.85	7.22	8.52	9.81
31	10	Vestini	.....	.....	4.68	5.05	6.96	8.60	10.15	11.65
32	9	Vettius	.....	.....	3.95	4.26	5.88	7.26	8.57	9.87
32	10	Veturia	.....	.....	4.70	5.07	7.00	8.64	10.20	11.70
33	9	Viadrus	.....	.....	3.98	4.29	5.92	7.31	8.63	9.94
33	10	Vialis	.....	.....	4.73	5.10	7.03	8.72	10.25	11.75
34	9	Viasma	.....	.....	4.00	4.32	5.96	7.36	8.68	10.00
34	10	Vibidia	.....	.....	4.75	5.13	7.05	8.79	10.30	11.80
35	9	Vibius	.....	.....	4.03	4.35	6.00	7.41	8.73	10.05
35	10	Vibo	.....	.....	4.78	5.16	7.08	8.81	10.35	11.90
36	9	Villia	.....	.....	4.05	4.37	6.03	7.45	8.78	10.10
36	10	Virbius	.....	.....	4.80	5.18	7.15	8.83	10.40	12.00

Regular Riveted Elevator Buckets

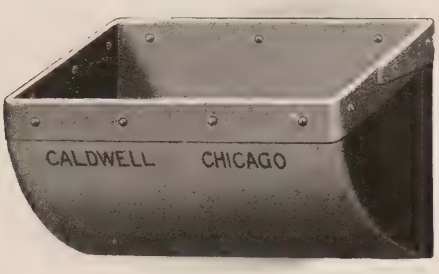


Fig. 45153. (*Lachduif*)

Regular Riveted Buckets are largely used in grain elevator and flour mill work. The body of the bucket is of very thin metal, and the top edge is reinforced with a strip of band iron, riveted to the body of the bucket and holding it together. The front and back are of one piece, and the ends are two separate pieces fastened to the front and back by double seaming. The corners are square, not rounded. The back of the bucket is straight, the front being curved.

Where the work is not too severe, this bucket will be found satisfactory, and somewhat cheaper than other types.

Prices on Galvanized Steel Buckets on application.

Price List, Subject to Discount

Size			CODE WORD For Size	Price Each and Code Word for Style		
Width Inches	Projection Inches	Length on Belt Inches		Tin Mill Buckets (Limatule)	Steel Grain Buckets (Limbaire)	Steel Ear Corn Buckets (Limbat)
2	2	2	Letamarono	$0.10	....	....
2½	2½	2½	Letamassi	.10	....	....
3	3	3	Letamavate	.10	....	....
3½	3	3	Letamarari	.10	....	....
4	3	3	Letaminano	.12	....	....
4	3½	3½	Letaminare	.13	....	....
4½	3½	3½	Letaminava	.14	....	....
5	4	4	Lettighina	.16	$0.16	....
5½	4	4	Lettner	.17	.17	....
6	4	4	Lettrage	.18	.18	....
7	4½	4½	Lettraille	....	.22	....
8	5	5	Lettrique	....	.25	....
9	5	5	Lettsomite	....	.28	....
9	6	6	Letushim	....	....	$0.40
10	5½	5½	Letuspolis	....	.35	....
10	6½	6½	Letztens	....	....	.50
11	6	6	Letzthin	....	.40	....
11	7	7	Letztlich	....	....	.56
12	6	6	Leucacanto	....	.44	....
12	7	7	Leucacate	....	....	.59
13	7	7	Leucadium	....	....	.62
14	6	6	Leucanie	....	.50	....
14	7	7	Leucantemo	....	....	.65
15	7	7	Leucasion	....	....	.70
16	7	7	Leucaspide	....	....	.76
18	7	7	Leucatanta	....	....	.82
19	7	7	Leuceoron	....	....	.87

Buffalo Elevator Buckets

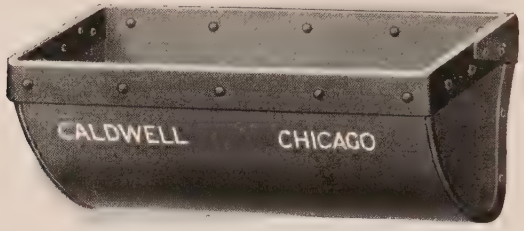


Fig. 45154. (*Lachduiven*)

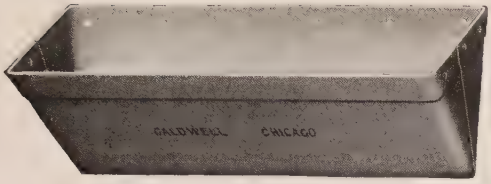
The Buffalo Bucket is particularly suited for large grain elevator work. It is similar to the Regular Riveted Bucket, but has a curved back, and a rounded bottom. The curved back is intended to conform to the curve of the head and foot pulleys.

This bucket is only made in the larger sizes. Made of light steel body, with reinforcement of band steel around top. Sizes 16 inches wide and larger have braces across top, either Malleable "I" or Steel "Z" Brace.

Price List, Subject to Discount

Width on Belt, Inches	Projection, Inches	Depth, Inches	CODE WORD For Size Only	Price Each	
				No. 26 Gauge (Linctı)	No. 24 Gauge (Linctos)
12	7	7	Lachement	....	$0.60
12	7	7½	Lachesness	....	.64
14	7	7	Lachetes	....	.68
14	7	7½	Lachfalke	....	.72
14	7½	7½	Lachish	....	.78
14	7½	8	Lachkrampf	....	.82
14	8	8	Lachlust	....	.88
16	6	6	Lachlustig	$0.60	.66
16	7	7	Lachmuskel	....	.80
16	7	7½	Lachnaca	....	.86
16	7½	7½	Lachnee	....	.92
16	7½	8	Lachnoleme	....	.96
16	8	8	Lachnope	....	1.06
18	6	6	Lachnopode	.66	.78
18	7	7	Lachnopfer	....	.88
18	7	7½	Lachrimis	....	.94
18	7½	7½	Lachrimpel	....	1.00
18	7½	8	Lachring	....	1.04
18	8	8	Lachsartig	....	1.12
20	6	6	Lachsfang	.72	.86
20	7	7	Lachslaus	....	.94
20	7	7½	Lachspier	....	1.00
20	7½	7½	Lachssalm	....	1.10
20	7½	8	Lachsstoer	....	1.16
20	8	8	Lachsters	....	1.20

"V" Shaped Elevator Buckets—Minneapolis Pattern



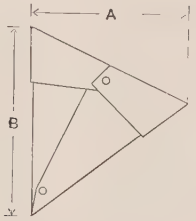


Fig. 45155. (*Lactiforme*)

"V" Shaped Elevator Buckets, Minneapolis Pattern, are suited particularly for high-speed grain elevators, where the buckets are spaced closely together. It is only necessary to leave about one-half inch space between buckets with this type.

When Minneapolis "V" Buckets are used, the speed of the head pulley can be increased about five revolutions per minute over the speed suited to ordinary buckets. This increase of speed, together with the closer spacing of the buckets, makes possible the increase of capacity of old elevators which have been equipped with other types of buckets.

Price List, Subject to Discount

Nominal Size	Price, Each	Code Word	Dimensions, Inches A	Dimensions, Inches B	Gauge of Steel	Weight per 100	Capacity, Cubic Inches
3 x 3	$0.25	Lepidulum	2¾	3⅜	28	28	11
3½ x 3	.25	Lepionure	2¾	3⅜	28	29	13
4 x 3	.25	Leptiforme	2¾	3⅜	28	32	15
4½ x 3	.27	Leptinarum	2¾	3⅜	27	39	17
4½ x 3½	.30	Leptinelle	3¼	3⅞	27	48	23
5 x 4	.35	Leptinos	3¾	4⅜	26	64	32
5½ x 4	.38	Leptitani	3¾	4⅜	26	65	35
6 x 4	.40	Leptitanos	3¾	4⅜	26	67	38
7 x 4½	.50	Leptocalie	4⅛	5	26	95	58
8 x 5	.70	Leptocarpo	4⅝	5½	24	149	80
9 x 5	.80	Leptochire	4⅝	5½	22	199	90
9 x 6	1.00	Leptocloa	5½	6⅝	22	255	135
9 x 7	1.40	Leptocyane	6⅜	7¾	20	382	180
10 x 5½	1.10	Leptodere	5	6⅛	20	306	122
10 x 6	1.20	Leptodermo	5½	6⅝	20	327	150
10 x 7	1.50	Leptodon	6⅜	7¾	20	382	200
11 x 6	1.30	Leptofillo	5½	6⅝	20	367	165
12 x 6	1.35	Leptofito	5½	6⅝	20	367	180
12 x 7	1.65	Leptofonia	6⅜	7¾	20	510	240
12 x 8	2.50	Leptogio	7⅜	9	18	734	305
14 x 6	1.75	Leptolobe	5½	6⅝	20	459	210
14 x 7	2.10	Leptolophe	6⅜	7¾	20	510	280
14 x 8	2.95	Leptomyze	7⅜	9	18	815	361
16 x 6	1.90	Leptonyx	5½	6⅝	20	459	240
16 x 7	2.30	Leptopeze	6⅜	7¾	18	510	320
16 x 8	3.25	Leptophide	7⅜	9	18	918	412
18 x 6	2.05	Leptoplane	5½	6⅝	20	546	270
18 x 7	2.50	Leptopo	6⅜	7¾	18	638	360
18 x 8	3.60	Leptopodia	7⅜	9	18	1020	464
20 x 6	2.25	Leptopodo	5½	6⅝	20	546	300
20 x 7	2.75	Leptoptile	6⅜	7¾	18	638	400
20 x 8	3.80	Leptopyre	7⅜	9	18	1020	515

Malleable End Elevator Buckets

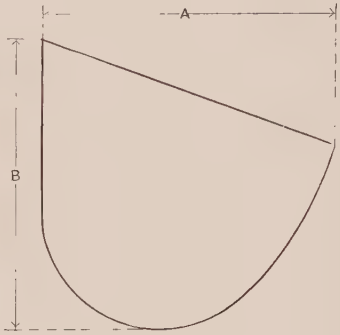


Fig. 45156. (*Lactando*)

Heavy end pieces of malleable iron are riveted securely to one-piece bent steel body, making a very strong and durable bucket. Especially adapted for Link Belt Elevators where the attachment is fastened to the end of the bucket.

Price List, Subject to Discount

SIZE OF BUCKET, INCHES		Capacity, Cu. In.	CODE WORD	Gauge of Steel	Price Each
Length	Projection, A				
12	7	340	Lactantius	18	$3.60
12	8	430	Lactaribus	16	4.30
12	9	500	Lactarin	16	5.20
14	7	400	Lactato	18	3.70
14	8	500	Lacteal	16	4.50
14	9	585	Lacteally	16	5.40
16	7	460	Lactebamus	16	4.00
16	8	575	Lactebitis	16	4.75
16	9	670	Lactemus	16	5.65
18	7	510	Lactentem	16	4.15
18	8	630	Lacteoli	14	5.05
18	9	750	Lacteoline	14	6.10
20	7	560	Lacteolos	16	4.40
20	8	720	Lacteous	14	5.40
20	9	830	Lacteously	14	6.40
24	8	790	Lacteremus	14	6.10
24	9	1000	Lactescent	14	7.00
30	8	1080	Lacticinio	14	7.00
30	9	1250	Lacticolor	14	7.65
36	8	1200	Lactiferas	14	7.90
36	9	1500	Lactifere	14	8.35

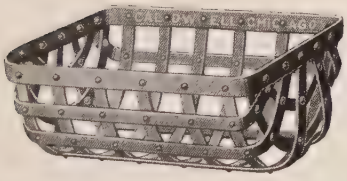
Elevator Bucket with Saw-Tooth Edge

Fig. 45157. (*Admix*)

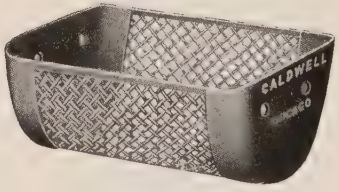
The above style of bucket is especially adapted for handling material that is fibrous, such as tan bark and like material which tends to pack in the elevator boot. The action of the teeth is like that of a fork in lifting the material.

Prices upon application.

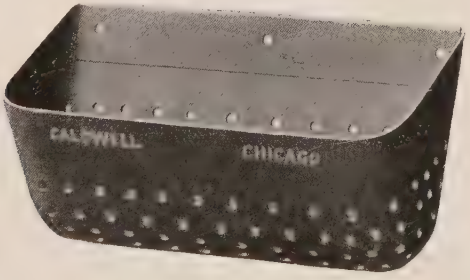
Draining Elevator Buckets



Crib Bucket
Fig. 45158. (*Lactifuge*)



Wire Cloth Bucket
Fig. 45159. (*Lactilago*)

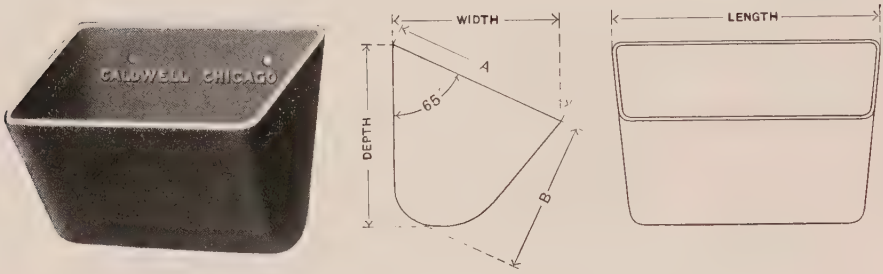


Perforated Elevator Bucket
Fig. 45160. (*Lactifical*)

The types of elevator buckets shown above are used to drain water or other liquids from the material while it is being elevated.

Prices upon application.

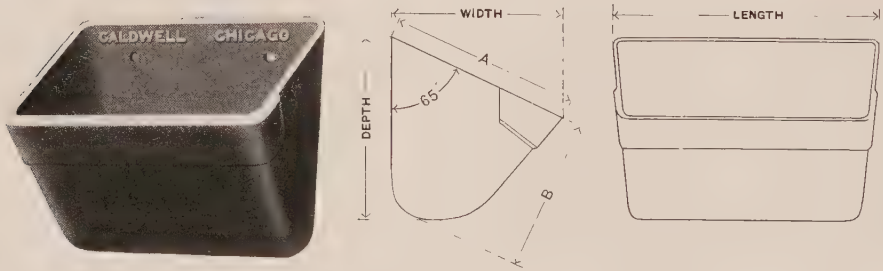
Malleable Iron Elevator Buckets



Style A. Fig. 45161. (*Accost*)

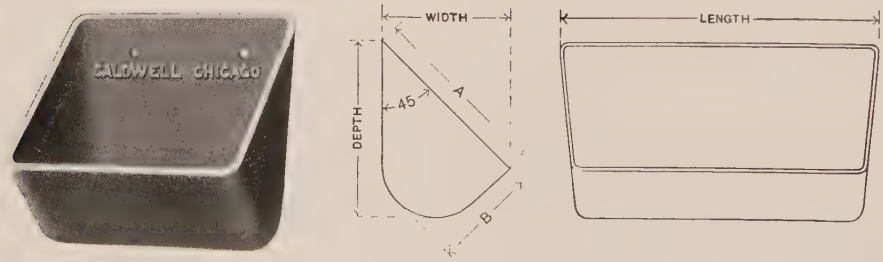
Style A Malleable Iron Buckets are used to handle cement, coal, phosphate, chemicals, pulp, etc. While they are somewhat heavier than steel buckets, they are suited for heavy work, and are preferred in many cases.

All of our malleable buckets are cast from our own patterns, are of ample weight and strength, and conform to Manufacturers' Standard dimensions. They are seamless, strong, and smooth, and the rounded corners insure free delivery of the material handled.



Style AA. Fig. 45162. (*Accounter*)

Style AA Malleable Iron Buckets are made with the front edge of the bucket thicker than the body. They are adapted for very heavy work, such as handling stone, gravel, etc.



Style B. Fig. 45163. (*Accosted*)

Style B Malleable Iron Buckets are used in handling stone, ore, etc., on inclined elevators.

Malleable Iron Elevator Buckets—Continued

Style A

Price List, Subject to Discount

Length in Inches	Width or Projection in Inches	Depth in Inches	Price	CODE WORD	Approximate Capacity in Cubic Inches	Approximate Capacity in Quarts
4	2¾	3	$0.31	Adhalarem	16	.21
5	3½	3¾	.43	Adhortatus	36	.38
6	4	4¼	.55	Adugebatur	55	.82
7	4½	5	.76	Adindentus	85	1.27
8	5	5½	.90	Adiramento	115	1.72
9	6	6¼	1.30	Adjuturus	135	2.39
10	6	6¼	1.45	Admoderor	204	3.00
11	6	6¼	1.55	Admonemur	223	3.33
12	6	6¼	1.65	Adordemus	246	3.67
12	7	7¼	1.90	Admugitum	332	5.00
14	7	7¼	2.20	Adociria	391	5.84
14	8	8½	3.00	Adelfico	509	7.60
15	7	7¼	2.35	Adelgis	425	7.34
16	7	7¼	2.60	Adoloridas	467	7.00
16	8	8½	3.40	Adelgonda	593	8.85
18	8	8½	3.75	Adelide	668	10.00
18	10	10½	5.85	Adonteremo	1053	15.72

Style AA

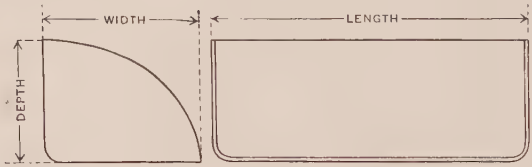
Length in Inches	Width or Projection in Inches	Depth in Inches	Price	CODE WORD	Approximate Capacity in Cubic Inches	Approximate Capacity in Quarts
6	4	4¼	$0.60	Adscriptus	55	.82
8	5	5½	1.00	Adulciste	115	1.72
10	6	6¼	1.50	Adumbramus	204	3.00
11	6	6¼	1.65	Adunamento	223	3.33
12	6	6¼	1.80	Adusserunt	246	3.67
12	7	7¼	2.10	Advecticia	332	5.00
14	7	7¼	2.45	Advecturum	391	5.84
15	7	7¼	2.60	Advancer	425	6.34
16	7	7¼	2.85	Advelavero	467	7.00

Style B

Length in Inches	Width or Projection in Inches	Depth in Inches	Price	CODE WORD	Approximate Capacity in Cubic Inches	Approximate Capacity in Quarts
4	1½	2¼	$0.25	Adasca	6	....
7	3½	5	.58	Adicifla	55	.90
8	3½	5	.65	Adoptarunt	65	.97
10	4	5½	1.10	Adorvisse	107	1.60
12	5½	7½	1.65	Adormista	233	3.50
16	6½	9	2.60	Adacquo	412	6.15

For other styles of Malleable Iron Buckets, see the following pages.

Malleable Iron Elevator Buckets—Continued



Style C. Figure 45164. (*Accosting*)

Style C Malleable Iron Buckets are especially adapted for the handling of sugar, clay, and sticky materials.

Price List, Subject to Discount

Length in Inches	Width or Projection in Inches	Depth in Inches	Price	CODE WORD	Approximate Capacity in Cubic Inches	Approximate Capacity in Quarts
8	4½	4	$0.85	Adrependum	50	1.00
10	5	4	1.20	Adrepsurus	80	1.50
12	5	4	1.35	Adricando	100	2.00
14	7	5½	2.00	Lacrimavel	220	5.70
16	7	5½	2.40	Adrunaran	250	6.50

Special Malleable Sugar Elevator Bucket

Fig. 45165. (*Limbularia*)

This type of bucket is used by a number of engineers in preference to the standard Style C Bucket for Sugar House work. It has slightly greater capacity than the Style C.

Price List, Subject to Discount

Length, Inches	Width or Projection, Inches	Depth, Inches	Price Each	CODE WORD
8	4½	4	$1.55	Lotoso
12	5	4	1.75	Lotsbestel

Continuous Malleable Elevator Bucket

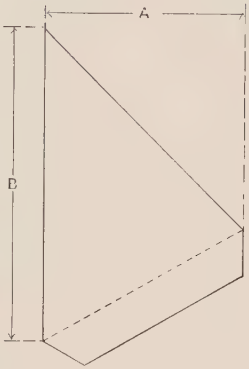


Fig. 45166. (*Lacrimula*)

Price List, Subject to Discount

SIZE OF BUCKET, INCHES			Price Each	CODE WORD	CAPACITY, CUBIC INCHES	
Length	Projection, A	Depth, B			Vertical Elevator	On 60° Incline
8	5	8	$1.80	Lacrymable	55	110
12	5	8	2.70	Lacrymule	85	170
12	7	12	3.75	Lactabat	175	350
16	7	12	5.25	Lactamide	230	460
20½	9½	11¾	7.50	Landweinen	450	900

Revolving Scraper Conveyor

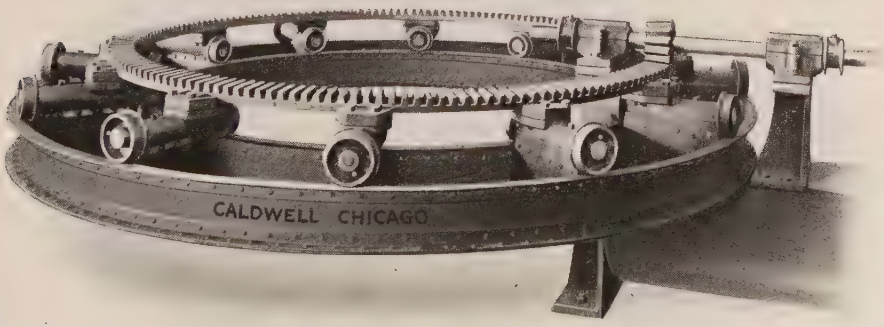


Fig. 45167. (*Lotspelen*)

Steel Gravity-Discharge Elevator Buckets

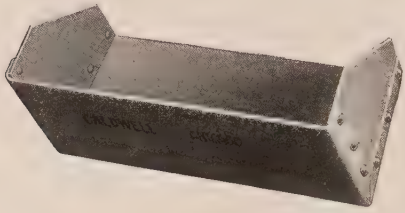
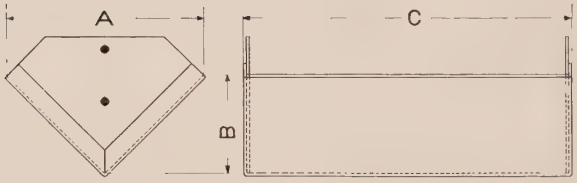


Fig. 45168. (*Lactiflere*)



This type of bucket is used with Gravity-Discharge Elevators, where the material is both conveyed along a horizontal strand and elevated. This type of elevator is shown on pages 126 and 127.

The sizes named below are standard, and cover most requirements. We can make special buckets of any dimension to order.

Length "C," Inches	Width "A," Inches	Depth "B," Inches	CODE WORD For Size of Bucket	Price Each, and Code Word for Gauge			
				No. 12 Ludunt	No. 10 Ludwig	3/16" Luebat	1/4" Luecke
12	12	6	Leuchemie	$3.50	.....	.....	.....
16	12	6	Leuchtende	4.50	.....	.....	.....
16	15	7	Leuchtgas	6.00	$ 7.00	.....	.....
20	15	7	Leuchtspan	6.50	7.50	.....	.....
20	20	10	Leuchtung	.....	10.00	$12.00	.....
24	15	7	Leuchtwurm	.....	8.25	10.00	.....
24	20	10	Leuciana	.....	.....	14.50	.....
30	20	10	Leucimme	.....	.....	17.00	.....
30	24	11	Leucoderme	.....	.....	22.00	$27.00
36	20	10	Leucodore	.....	.....	20.00	25.00
36	24	11	Leucofillo	.....	.....	.....	32.00
42	24	11	Leucografo	.....	.....	.....	37.00
48	24	11	Leucojum	.....	.....	.....	52.00

Style F Shelf Buckets

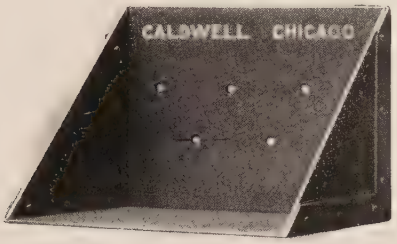


Fig. 45169. (*Adnate*)

Style F Steel Shelf Buckets are made in practically any size and gauge desired. They are used to handle sticky material, such as sugar and clay, which does not discharge well from the ordinary shape of bucket.

Prices will be quoted upon receipt of specifications.

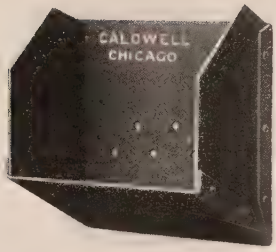
Special Sugar Beet Elevator Buckets

Fig. 45170. (*Lactiflore*)

The Sugar Beet Elevator Bucket, shown above, has a large capacity, and discharges the material well. Being provided with angle guides on the side, it is used with a single strand of chain.

Prices on application.

Steel Stone Elevator Buckets



Style G
Fig. 45171. (*Dringola*)

Style L
Fig. 45172. (*Lactiferum*)

The buckets shown above are used principally for elevating broken stone, gravel, ore, etc. They may also be used with clay elevators.

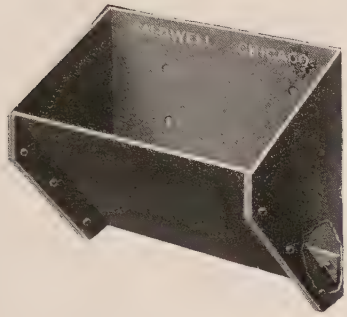
Other types of steel buckets are shown on the following pages. Our equipment for making heavy steel buckets is very complete and we will be glad to quote on any style of bucket.

Sizes not shown below can be made to order. Prices on application.

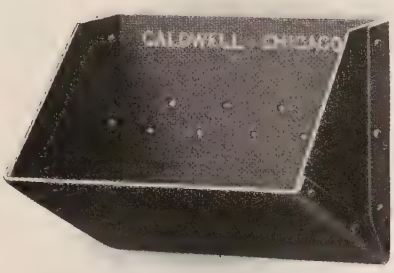
Price List, Subject to Discount

SIZE OF BUCKET			CODE WORD for Size of Bucket	TELEGRAPH CODE FOR GAUGE					
				Lanero	Lanestre	Langara	Laonde	Lapata	Lapatho
Width across Belt, Inches	Projection from Belt, Inches	Length on Belt, Inches		Price Each, No. 16 Gauge	Price Each, No. 14 Gauge	Price Each, No. 12 Gauge	Price Each, No. 10 Gauge	Price Each, $\frac{3}{16}$"	Price Each, $\frac{1}{4}$"
9	5¼	9	Landzoll	$1.70	$1.85	$2.00	$2.30	.....	.....
11	5¼	9	Landzolles	1.85	2.00	2.20	2.50	.....	.....
13	6	10	Landzucht	....	2.30	2.75	3.35	.....	.....
16	7	11	Landzunge	....	2.60	3.10	3.75	.....	.....
18	8	12	Landzwirn	....	3.20	3.75	4.45	.....	.....
20	8	12	Lanerias	....	....	4.20	4.95	.....	.....
24	9	13½	Lanfranco	....	....	4.85	5.90	$7.75	$9.95
30	10½	15	Langages	....	....	....	8.80	11.50	14.55
36	11½	16	Langarmig	....	....	....	9.55	14.00	17.60

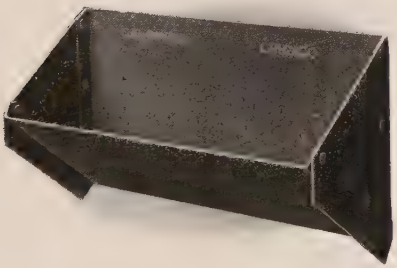
Heavy Steel Elevator Buckets



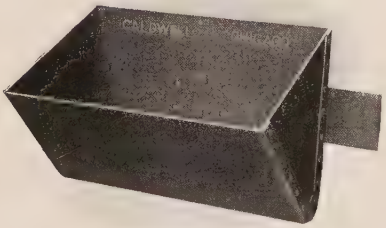
Style D. Fig. 45173. (*Admonitor*)



Style E. Fig. 45174. (*Adnascent*)



Style H. Fig. 45175. (*Adussit*)



Style K. Fig. 45176. (*Adadhir*)

The buckets shown above are used extensively in handling stone, gravel, coal, crushed rock, sand, and other heavy materials. With all of these buckets it is better practice to load them on the carrying strand of the elevator, rather than in a boot, as the digging action necessary in a boot causes greatly increased wear on the bucket and strain on the elevator.

The sizes listed on the following two pages will generally be found to cover all requirements, but special sizes of buckets can be made if necessary. Prices on receipt of specifications.

The various styles of buckets vary slightly in price, the difference being taken care of by different discounts on the several styles. As these buckets are not kept in stock, the price also varies with the quantity ordered at one time.

Overlapping Continuous Buckets, as shown on page 130, take the same list, and are similar to Style D buckets, but are slightly deeper. The discount varies slightly from that on the Style D bucket.

Price list on the next two pages.

Heavy Steel Elevator Buckets

Styles "D," "E," "H" and "K."

Price List, Subject to Discount

NOTE—Difference in net price of these styles is governed by variation in discount.

SIZE OF BUCKET			CODE WORD for Size of Bucket	TELEGRAPH CODE FOR GAUGE							
				Drock	Droghe	Drohne	Druxey	Drogail	Duale	Lance	Lapins
Width across Belt, Inches	Projection from Belt, Inches	Length on Belt, Inches		Price Each, No. 18 Gauge	Price Each, No. 16 Gauge	Price Each, No. 14 Gauge	Price Each, No. 12 Gauge	Price Each, No. 10 Gauge	Price Each, No. 8 Gauge	Price Each, 3/16"	Price Each, 1/4"
5	3	4	Lampadisti	$0.85	$0.95	$1.00	$1.05	....	....	...	...
6	3½	4¾	Lampadonem	.90	1.05	1.15	1.25	$1.35	....	....	...
6	4	6¾	Lampadonis	1.00	1.10	1.20	1.30	1.45	...	....	...
7	4	6¾	Lampadrome	1.05	1.20	1.25	1.35	1.50	...	...	...
8	4½	7¾	Lampantes	1.25	1.40	1.45	1.70	1.85	....	....	...
8	5	7¾	Lampantium	1.25	1.40	1.45	1.70	1.85	....	....	...
8	6	9	Lampareros	1.40	1.50	1.65	1.80	1.95	....	....	...
8	6	11¾	Lamparilla	1.50	1.60	1.80	2.00	2.40	....	....	...
9	5	7¾	Lamparina	1.35	1.40	1.50	1.80	2.05	....	....	...
9	5	9	Lamparones	1.40	1.50	1.55	1.80	2.10	....	....	...
9	5½	7¾	Lampassato	1.40	1.50	1.55	1.80	2.10	....	....	...
9	6	7¾	Lampasso	1.40	1.50	1.55	1.80	2.10	....	....	...
9	6	8¾	Lampaveris	1.50	1.60	1.75	1.90	2.35	$2.70	....	...
9	6	11¾	Lampblack	1.65	1.75	1.80	2.25	2.75	3.10	....	...
10	5	7¾	Lampe	1.35	1.40	1.50	1.65	2.05	2.35	....	...
10	5½	7¾	Lampeao	....	1.40	1.50	1.65	2.05	2.35	....	...
10	5½	9	Lampebakje	....	1.50	1.60	1.85	2.20	2.60	....	...
10	6	8¾	Lampeggia	....	1.50	1.60	2.00	2.30	2.85	....	...
10	6	11¾	Lampeiro	....	1.80	1.90	2.60	2.95	3.30	....	...
10	7	11¾	Lampejante	....	1.80	1.90	2.60	2.95	3.30	....	...
10	8	11¾	Lampenglas	....	1.90	2.00	2.75	3.10	3.50	....	...
11	5½	9	Lampenmann	....	1.55	1.65	2.00	2.35	2.70	....	...
11	5½	9½	Lampenoel	....	1.55	1.65	2.00	2.35	2.70	....	...
11	6	8	Lampenraum	....	1.50	1.60	1.90	2.25	2.60	....	...
11	6	9	Lampenruss	....	1.65	1.75	2.20	2.55	3.00	....	...
11	6	10⅛	Lampenzuur	....	1.80	1.90	2.40	2.90	3.25	....	...
12	5	11¾	Lampernis	....	1.80	1.90	2.40	2.90	3.25	$3.40	...
12	5½	11¾	Lamperon	....	1.80	1.90	2.40	2.90	3.25	3.40	...
12	6	7¾	Lampetian	....	1.80	1.90	2.40	2.90	3.25	3.40	...
12	6	9¼	Lampetide	....	1.80	1.90	2.40	2.90	3.25	3.40	...
12	6	11	Lampetkom	....	1.90	2.00	2.50	3.00	3.40	3.70	...
12	6	11¾	Lampillas	....	1.90	2.00	2.50	3.00	3.40	3.70	...
12	6½	9	Lampinho	....	1.80	1.90	2.40	2.90	3.25	3.40	...
12	7	9¼	Lampique	....	1.85	2.00	2.55	3.05	3.50	3.85	...
12	7	11¾	Lampiride	....	2.00	2.15	2.65	3.25	3.75	4.05	...
12	8	10	Lampjes	....	2.00	2.15	2.65	3.25	3.75	4.05	...
12	8	11¾	Lamplight	....	2.20	2.25	3.00	3.65	4.20	4.55	...
13	6	11¾	Lampocaria	....	1.95	2.15	2.65	3.25	3.70	4.00	...
13	6½	10	Lampocarpe	....	2.05	2.20	2.75	3.40	3.80	4.20	...
13	6½	11	Lampolie	....	2.15	2.30	2.90	3.55	4.00	4.40	...

For other sizes, see following page.

Heavy Steel Elevator Buckets—Continued

Styles "D," "E," "H" and "K."

Price List, Subject to Discount

SIZE OF BUCKET			CODE WORD for Size of Bucket	TELEGRAPH CODE FOR GAUGE							
				Drock	Droghe	Drohne	Druxey	Drogail	Duale	Lance	Lapins
Width across Belt, Inches	Projection from Belt, Inches	Length on Belt, Inches		Price Each, No. 18 Gauge	Price Each, No. 16 Gauge	Price Each, No. 14 Gauge	Price Each, No. 12 Gauge	Price Each, No. 10 Gauge	Price Each, No. 8 Gauge	Price Each, 3/16"	Price Each, 1/4"
13	6½	11¾	Lamponion	...	$2.20	$2.30	$3.05	$3.75	$4.20	$4.65	...
13	7	9¼	Lamponius	...	2.05	2.10	2.65	3.30	3.55	4.10	....
13	7	10	Lampoon	...	2.15	2.30	2.90	3.50	4.00	4.35	....
13	7	11¾	Lampooned	...	2.30	2.45	3.05	3.70	4.20	4.60	....
13	7½	11¾	Lampooning	...	....	2.45	3.05	3.70	4.20	4.60	....
13	8	10	Lampote	...	....	2.40	2.90	3.50	4.00	4.35	....
14	6	11¾	Lampreadas	...	....	2.20	2.70	3.30	3.75	4.10	....
14	7	11	Lampreado	...	....	2.55	3.15	3.85	4.35	4.75	....
14	7	11¾	Lampreamos	...	....	2.55	3.15	3.85	4.35	4.75	....
14	7	14	Lamprearon	...	....	2.80	3.45	4.25	4.75	5.35	....
14	7½	9	Lamprete	...	....	2.15	2.65	3.25	3.70	4.05	....
14	8	9	Lampridius	...	....	2.20	2.75	3.35	3.80	4.20	....
14	8	11¾	Lamprima	...	....	2.70	3.30	4.00	4.60	5.00	....
14	8½	9	Lamprocles	...	....	2.35	3.05	3.75	4.10	4.50	....
14	9	9	Lamproforo	...	....	2.40	3.15	3.80	4.20	4.65	....
15	7	9	Lamprosoma	...	....	2.30	2.90	3.60	3.90	4.50	....
15	7	10	Lampsachum	...	....	2.55	3.20	3.85	4.30	4.75	....
15	7	11¾	Lampsakos	...	....	2.70	3.30	4.00	4.50	4.90	....
15	7½	12	Lampsana	...	....	2.85	3.45	4.20	4.75	5.15	....
16	7	10	Lampsile	...	....	2.70	3.35	4.05	4.50	5.00	....
16	7	11¾	Lampspelen	...	....	2.85	3.50	4.20	4.70	5.15	....
16	8	11¾	Lampteria	...	....	3.00	3.70	4.50	5.05	5.55	....
16	9	11¾	Lamptra	...	....	3.05	3.85	4.60	5.20	5.75	....
17	6	11¾	Lampuga	...	....	2.75	3.20	3.90	4.45	4.90	....
17	7	11¾	Lampyrine	...	....	3.10	3.70	4.45	5.00	5.55	....
17	8½	11¾	Lamsbout	...	....	3.25	3.85	4.60	5.35	5.75	....
18	7½	13	Lamschoofd	...	....	....	4.20	4.90	5.70	6.00	....
18	9	11¾	Lamskop	...	....	....	4.30	5.00	5.80	6.15	....
18	14	17¾	Lamskoppen	...	....	....	6.45	7.95	9.65	10.55	....
21	8	11¾	Lamslong	...	....	....	4.20	5.15	6.30	6.65	....
21	9	11¾	Lamsoor	...	....	....	4.35	5.35	6.50	6.90	....
22	9	11¾	Lamsooren	...	....	....	4.60	5.60	6.80	7.25	....
24	9	11¾	Lamstongen	...	....	....	4.90	5.90	7.20	7.75	....
24	14	11¾	Lamsvacht	...	....	....	7.60	9.35	11.35	12.45	$15.40
25	10⅜	11¾	Lamsvel	...	....	....	5.40	6.45	7.90	8.40	10.20
25	12	14	Lamsvellen	...	....	....	6.50	7.70	9.45	10.30	12.80
26	6	11¾	Lamsvlies	...	....	....	4.00	4.95	6.00	6.35	7.80
28	7	11¾	Lamswol	...	....	....	4.40	5.35	6.60	6.95	8.50
30	10	15	Lamsworst	...	....	....	6.85	8.40	10.25	11.30	14.00
30	10	17¾	Lamyros	...	....	....	7.70	9.45	11.50	12.55	15.50
30	14	15	Lamzalig	...	....	....	8.25	10.15	12.40	12.45	16.90
30	15	19	Lamzaliger	...	....	....	9.90	12.20	14.90	16.25	20.20
30	18	17¾	Lanaria	...	....	....	11.35	13.95	17.00	18.50	23.05
36	12	17¾	Lanarkite	...	....	....	9.50	11.50	14.20	15.50	19.50
36	13	16	Lancadeira	...	....	....	10.00	12.00	15.00	16.25	20.50

Elevator Bucket Bolts for Flat Belting

Corrugated and Slotted Head Bolt

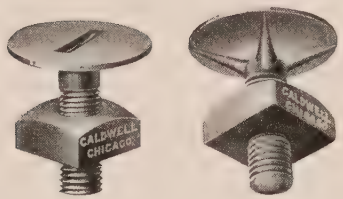


Fig. 45177. (*Agrid*)

Price List, Subject to Discount

In Boxes Containing 100

Size	CODE WORD	Price
1/2-inch x 1/4-inch	Agrifolio	$2.20
5/8 " x 1/4 "	Agripaume	2.20
3/4 " x 1/4 "	Agronomy	2.20
7/8 " x 1/4 "	Agrotis	2.30
1 " x 1/4 "	Aguaderas	2.30

We carry the above sizes in stock, and do not make other sizes of this style of bolt.

We recommend this bolt for general use. It has sharp ribs or corrugations under the head which press into the belt to prevent the bolt from turning, and, in addition to this, a slot cut into the top of the head allows the use of a screw driver to prevent the bolt from turning while the nut is being tightened.

Fig. 45178. (*Aidance*)

Flat-Head Bolts

The flat-head bolt is undoubtedly the best made for heavy work. The large head prevents the bolt from being drawn through the belt and it is thin enough to leave a flat surface on the pulley side of belt.

Price List, Subject to Discount

In Boxes Containing 100

Size, Inches	CODE WORD	Price	Size, Inches	CODE WORD	Price
1/2 x 3/16	Aigle	$2.20	3/4 x 5/16	Aimlessly	$3.00
5/8 x 1/4	Aignan	2.20	7/8 x 5/16	Airball	3.00
3/4 x 1/4	Aigulet	2.20	1 x 5/16	Aircell	3.00
7/8 x 1/4	Aileron	2.30	1 1/4 x 5/16	Airgun	3.20
1 x 1/4	Ailing	2.30	1 1/2 x 5/16	Airholes	3.40
1 1/4 x 1/4	Ailment	2.40	1 x 3/8	Langathmig	4.00
1 1/2 x 1/4	Aim	2.50	1 1/4 x 3/8	Langbaard	4.30
			1 1/2 x 3/8	Langbaum	4.60

Thickness of Belting

The following table will assist in deciding the length of Bucket Bolts.

No. of Plies	Leather	Rubber	Cotton	Canvas Stitched
Single	5/32" to 1/4"	...	...	...
2 Ply	5/16" to 1/2"	1/8"	1/8"	...
3 Ply	.....	3/16"	5/32"	2/16"
4 Ply	.....	1/4"	3/16"	5/16"
5 Ply	.....	5/16"	7/32"	7/16"
6 Ply	.....	3/8"	1/4"	9/16"
8 Ply	.....	1/2"	...	13/16"

Elevator Bucket Bolts for Link Belting

Fig. 45179. (*Aidless*)

Used with light chains and small buckets.

Button-Head Bolts

Price List, Subject to Discount

In Boxes Containing 100

Size	CODE WORD	Price
1/2-inch x 3/16-inch	Airian	$2.20
5/8 " x 1/4 "	Airiness	2.20
3/4 " x 1/4 "	Airling	2.20
3/4 " x 5/16 "	Aislamos	3.00
1 " x 5/16 "	Ajamiento	3.00

Fig. 45180. (*Aisle*)

Used with heavy chains and large buckets, for heavy work.

Square Head Bolts

Price List, Subject to Discount

In Boxes Containing 100

Size	CODE WORD	Price
1/4-inch x 3/4-inch	Alacrity	$1.70
1/4 " x 1 "	Aladag	1.70
5/16 " x 3/4 "	Alajate	2.00
5/16 " x 1 "	Alambicon	2.00
3/8 " x 3/4 "	Alambrera	2.40
3/8 " x 1 "	Alampada	2.40

Fig. 45181. (*Ajutage*)

For use with chain where the bolt holes in the attachment links are square.

Square-Shank Bolts

Price List, Subject to Discount

In Boxes Containing 100

Size	CODE WORD	Price
1/4-inch x 3/4-inch	Alamont	$2.40
1/4 " x 1 "	Alantine	3.00
5/16 " x 3/4 "	Alarm	3.00
5/16 " x 1 "	Alarment	3.00
3/8 " x 3/4 "	Langbeen	4.00
3/8 " x 1 "	Alarming	4.00
3/8 " x 1 1/4 "	Alarmist	4.00
3/8 " x 1 1/2 "	Alaterne	4.00

For diameter of bolts used with various chain attachments, see page 159.

Leather Washers for Bucket Bolts

Fig. 45182. (*Lactiphago*)

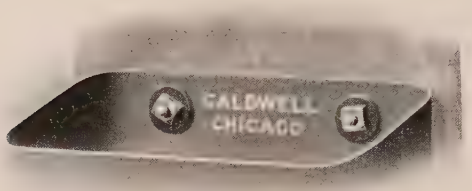


Fig. 45183. (*Lactitabit*)

These prevent the nuts on elevator bolts from working loose and dropping off, thus causing the bucket to drop and be destroyed, besides doing other damage more serious. Figure 45183 shows washers in position on bucket. We carry a large stock of hard-leather washers, and recommend their use. In ordering bolts, state whether leather washers are wanted.

	Code Word	
Price per 100 for ¼-inch bolts	Akimbo	$0.45
Price per 100 for $\frac{5}{16}$-inch bolts	Alabaster	.51

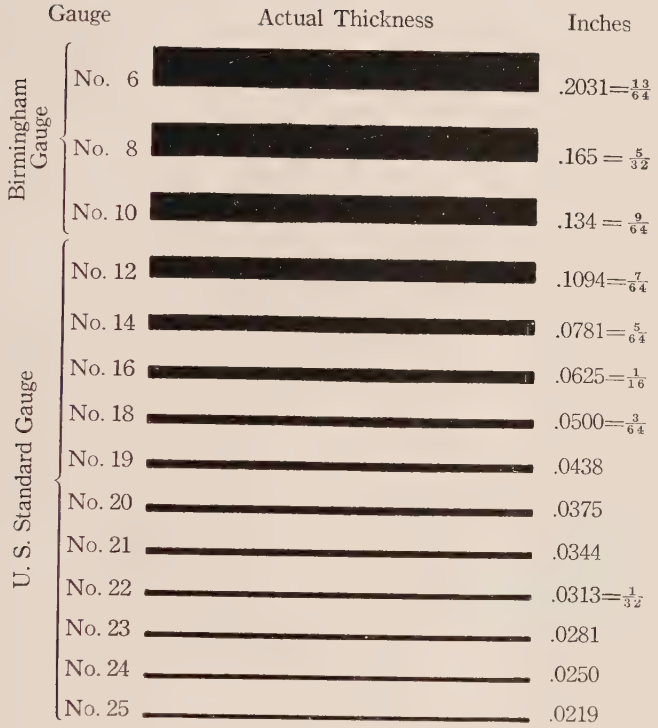
The Caldwell Socket Wrench

Fig. 45184. (*Alava*)

A handy tool which can be used in any ordinary brace to rapidly and securely fasten buckets on belts.

Price, subject to Discount $0.60

Gauges or Thickness of Metal Used in Elevator Buckets



Elevator buckets are sold by the U. S. Standard Gauge, which is the gauge employed by rolling mills in rolling sheet steel. Where, however, the metal is heavier than No. 12 it is designated as steel plate and measured by Birmingham gauge.

Standard Schedule for Punching Buckets for Flat Belt Elevators

Size of Bucket, Inches	Caldwell Corrugated, and Malleable Iron Buckets		Caldwell Heavy Seamless		Riveted Tin, Riveted Steel, Salem and Buffalo Buckets	
	Centers of Holes, Inches	Number of Holes	Centers of Holes, Inches	Number of Holes	Centers of Holes, Inches	Number of Holes
2 x 2	7/8	2	...	..	7/8	2
2½ x 2½	1¼	2	...	..	1¼	2
3 x 3	1⅜	2	...	..	1⅜	2
3½ x 3	1¾	2	...	..	1¾	2
4 x 3	2¼	2	...	..	2¼	2
4½ x 3½	2½	2	...	..	2½	2
5 x 4	3	2	3	2	3	2
5½ x 4	3½	2	...	..	3½	2
6 x 4	4	2	4	2	4	2
7 x 4½	4½	2	4½	2	4½	2
8 x 5	3	3	2⅝	3	3	3
9 x 5	3½	3	...	..	3½	3
9 x 5½	3½	3	3¼	3	3½	3
10 x 5½	4	3	3¾	3	4	3
11 x 6	4½	3	4¼	3	4½	3
11 x 7	...	..	...	..	4½	3
12 x 6	...	..	...	..	3¼	4
12 x 6½	3¼	4	3¼	4	3¼	4
12 x 7	...	..	...	..	3¼	4
14 x 6	...	..	...	..	3	5
14 x 6½	3	5	2⅞	5	3	5
14 x 7	...	..	...	..	3	5
16 x 6	...	..	...	..	3½	5
16 x 6½	3½	5	3⅜	5	3½	5
16 x 7	...	..	...	..	3½	5
18 x 6	...	..	...	..	4	5
18 x 7	4	5	3⅞	5	4	5
20 x 6	...	..	...	..	3½	6
20 x 7	3½	6	3½	6	3½	6

NOTE—Where braces are used in the large sized buckets, above schedule does not apply, as the holes must be spaced to miss braces.

Standard Schedule for Punching Buckets for Double-Strand Link-Belt Elevators

Caldwell Corrugated, Seamless, Salem and Regular Riveted, Inches	Size of Link-Belt, Number	Centers of K-Links, Inches	Caldwell Corrugated, Seamless, Salem and Regular Riveted,	Size of Link-Belt, Number	Centers of K-Links, Inches
10	77	4½	16	88	9½
12	77	6½	16	103	9¼
12	78	6	18	77	12½
12	88	5½	18	78	12
12	103	5¼	18	88	11½
14	77	8½	18	103	11¼
14	78	8	18	124	9½
14	88	7½	20	77	14½
14	103	7¼	20	78	14
16	77	10½	20	88	13½
16	78	10	20	103	13¼

Malleable Iron Buckets	Size of Link-Belt, Number	Centers of K-Links, Inches	Malleable Iron Buckets	Size of Link-Belt, Number	Centers of K-Links Inches
10-A	77	5	12-A	88	6
10-A	78	4½	12-A	103	5¾
10-A	88	4¾	12-B	77	6½
10-B	77	4½	12-B	78	6
12-A	77	6¾	12-B	88	5½
12-A	78	6¼	12-B	103	5½

Diameter of Bolts Used for Securing Buckets, Flights, Etc., to Chain Attachment Links

All Dimensions in Inches

Standard Detachable Link-Belt

No. of Chain	Attachments and Diameter of Bolts Required							
		F-2	G-1	G-6	G-19	K-1	K-2	K-3	K-5
25	..	..	1/8	..	..	1/8	..	..	..
32	..	..	3/16	..	..	3/16	..	3/16	..
33	..	..	..	..	..	3/16	..	3/16	..
34	..	..	..	..	..	3/16	..	..	..
35	..	..	..	..	..	3/16	..	..	..
42	..	..	..	..	..	3/16	..	3/16	..
45	..	3/16	3/16	..	..	3/16	..	3/16	3/16
51	..	..	..	..	..	3/16	..	..	..
52	..	3/16	3/16	..	..	1/4	..	..	..
55	..	3/16	..	..	..	1/4	..	..	1/4
57	..	1/4	..	..	..	1/4	..	..	..
62	..	..	..	..	..	1/4	..	..	..
67	..	1/4	1/4	..	..	1/4	..	1/4	..
75	..	1/4	..	..	..	1/4	..	..	..
77	..	1/4	1/4	1/4	1/4	1/4	..	..	..
78	..	1/4	1/4	1/4	1/4	1/4	..	5/16	..
83	..	..	3/8	..	..	..	..	..	..
85	..	3/8	..	1/4	..	..	5/16	..	..
88	..	5/16	1/4	1/4	5/16	5/16	..	..	..
93	..	..	3/8	..	..	..	..	..	..
95	..	3/8	..	..	..	..	3/8	..	..
103	..	3/8	..	1/4	3/8	3/8	3/8	..	..
108	..	3/8	3/8	..	..	..	3/8	..	..
110	..	3/8	..	..	..	..	3/8	..	..
114	..	3/8	..	3/8	..	1/2	..	..	..
122	..	..	..	..	..	..	3/8	..	..
124	..	3/8	3/8	3/8	..	5/8	..	..	..

Combination Malleable Iron and Steel Chain

No. of Chain	Attachments and Diameter of Bolts Required			
	F-2	G-6	K-1	K-2
102	3/8	..	..	3/8
102½	3/8	..	..	3/8
111	3/8	3/8	..	3/8
131	3/8	3/8	5/16	3/8
132	..	..	..	3/8
141	..	..	..	3/8
142	..	..	..	5/16
188	5/16	1/4	5/16	..

Ley Bushed Chain

No. of Chain	Attachments and Diameter of Bolts Required			
	A-42	F-2	G-6	K-2
730	..	3/8	3/8	1/2
823	5/8	3/8	5/16	3/8
825	5/8	3/8	3/8	1/2
830	3/4	3/8	3/8	1/2
843	..	..	..	1/2
844	..	..	..	1/2

Improved Design Cast Iron Elevator Boot

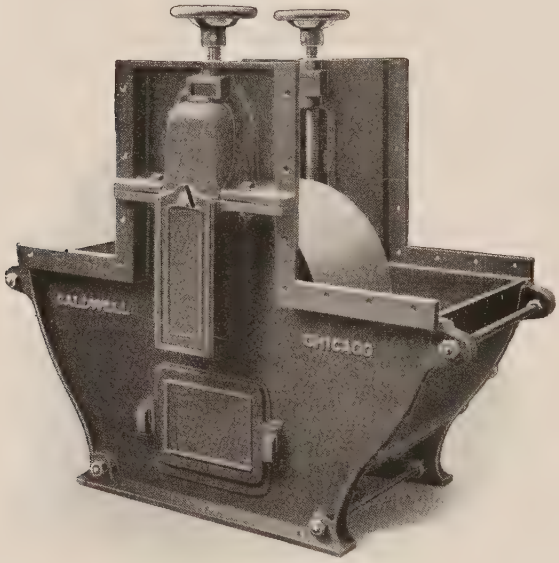


Fig. 45185. (*Lactometro*)

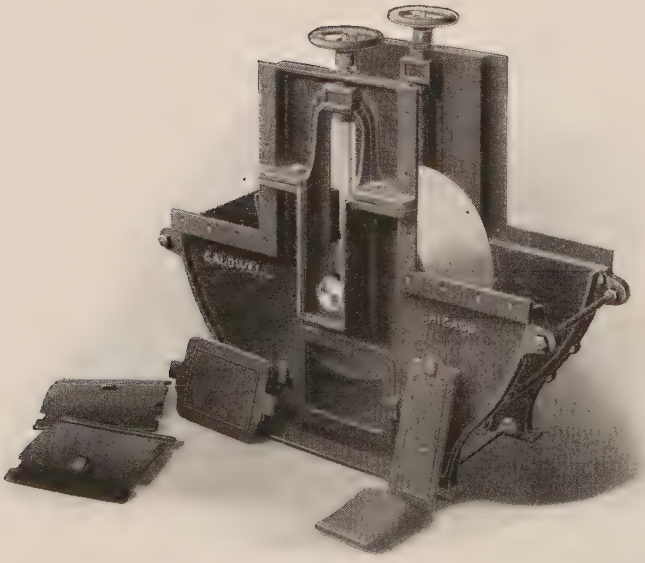


Fig. 45186. (*Lactose*)

Improved Design Cast Iron Elevator Boots—Continued

All sizes, except No. 0, have removable cast-iron bottom pieces, permitting easy access to the inside of the boot in case of choke-up or accident. These bottom pieces are very easily removed and replaced. No. 0 Boots have steel bottoms.

The Take-Up Rods are hollow shafts, and the bearings are oiled through them.

This boot is particularly suited for Wooden Elevator Legs. We recommend the Style B Elevator Boot for use with Steel Elevators.

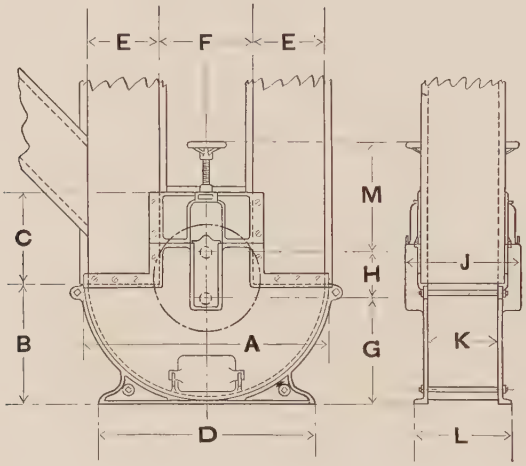
The prices below include the boot complete with shaft and either pulley or sprocket wheel. If boot is wanted with sprocket wheel, be sure to specify the number of chain with which it is to be used.

Price List, Subject to Discount

Number of Boot	Size of Bucket	Diameter of Pulley or Sprocket	Face of Pulley	Width of Belt	CODE WORD	Price
0	3 x 3	12	4	3½	Adorateur	$25.00
	3½ x 3	12	4½	4	Adoration	26.00
	4 x 3	12	5	4½	Adore	27.00
	4½ x 3½	12	5½	5	Adoreth	28.00
	5 x 4	12	6	5½	Adorning	29.00
	5½ x 4	12	6½	6	Adoringly	30.00
1	5 x 4	14	6	5½	Adornment	40.00
	5½ x 4	14	7	6	Adouber	42.50
	6 x 4	14	8	7	Adragant	45.00
	7 x 4½	14	9	8	Adradat	47.50
	8 x 5	14	10	9	Adroit	50.00
2	8 x 5	16	10	9	Adroitly	58.00
	9 x 5½	16	11	10	Adroitness	61.00
	10 x 5½	16	12	11	Adrubado	64.00
	11 x 6	16	13	12	Adulation	67.00
	12 x 6½	16	14	13	Adulatory	70.00
3	10 x 5½	18	12	11	Adult	90.00
	11 x 6	18	13	12	Adulterate	94.00
	12 x 6½	18	14	13	Adultness	98.00
	14 x 6½	18	16	15	Adumbrate	106.00
	16 x 6½	18	18	17	Adunation	114.00
3	12 x 6½	20	14	13	Aduncity	100.00
	14 x 6½	20	16	15	Adustion	108.00
	16 x 6½	20	18	17	Adveniet	116.00
	18 x 7	20	20	19	Advenir	124.00
4	14 x 6½	24	16	15	Advent	125.00
	16 x 6½	24	18	17	Adventive	135.00
	18 x 7	24	20	19	Adventual	145.00
	20 x 7	24	22	21	Adventurer	155.00
	22 x 8	24	24	23	Adverb	165.00

For Dimensions, see following page.

Improved Design Cast Iron Elevator Boots—Continued

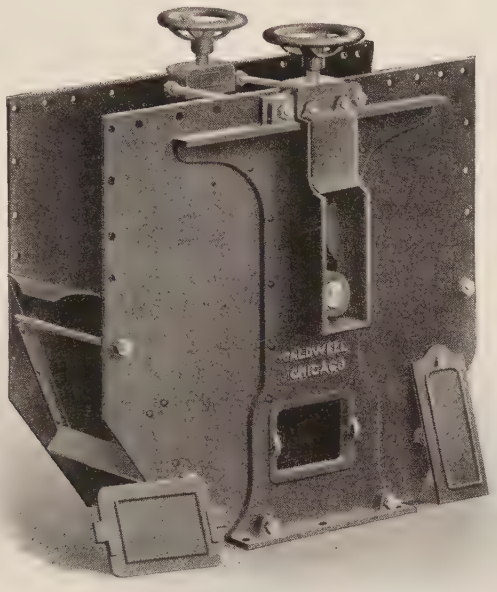


Dimension List

For Price List see preceding page.
For Price List of Wooden Elevator Heads and Legging, see page 173.

Size of Boot	A In	B In	C In.	D In.	E In.	F In.	G In.	H In.	For Belt J In.	For Belt K In.	For Belt L In.	For Single Strand Chain J In.	For Single Strand Chain K In.	For Single Strand Chain L In.	M In.	Size of Buckets, Inches
									10 3/4	5	7 3/4	10 1/4	4 1/2	7 1/4		3 x3
No 0.									11 1/4	5 1/2	8 1/4	10 3/4	5	7 3/4		3 1/2x3
12-inch									11 3/4	6	8 3/4	11 1/4	5 1/2	8 1/4		4 x3
Diam.	24 1/4	11 3/4	12 3/4	19 1/2	6 1/4	10 1/4	11 1/2	5 3/4	12 1/4	6 1/2	9 1/4	11 3/4	6	8 3/4	15 1/2	4 1/2x3 1/2
Pulley or									12 3/4	7	9 3/4	12 1/4	6 1/2	9 1/4		5 x4
Sproc't									13 1/4	7 1/2	10 1/4	12 3/4	7	9 3/4		5 1/2x4
									12 3/4	7	10	12 3/4	7	10		5 x4
No. 1.									13 3/4	8	11	12 3/4	7	10		5 1/2x4
14-inch									14 3/4	9	12	13 3/4	8	11	18	6 x4
Diam.	31	15 1/4	12 3/4	27	9	11 3/4	13 1/2	6 1/2	15 3/4	10	13	14 3/4	9	12		7 x4 1/2
Pulley or									16 3/4	11	14	15 3/4	10	13		8 x5
Sproc't																
									18 3/4	11	14 1/2	17 3/4	10	13 1/2		8 x5
No. 2.									19 3/4	12	15 1/2	18 3/4	11	14 1/2		9 x5 1/2
16-inch									20 3/4	13	16 1/2	19 3/4	12	15 1/2	21 1/2	10 x5 1/2
Diam.	37	16 1/4	16	23 1/2	11 1/2	13	15	8 1/4	21 3/4	14	17 1/2	20 3/4	13	16 1/2		11 x6
Pulley or									22 3/4	15	18 1/2	21 3/4	14	17 1/2		12 x6 1/2
Sproc't																
									22	14	17 1/2	20	12	15 1/2		10 x5 1/2
No. 3.									23	15	18 1/2	22	14	17 1/2		11 x6
18-inch									24	16	19 1/2	23	15	18 1/2	23	12 x6 1/2
Diam.	44	21	17	28 1/2	14	15	19 1/4	8 1/2	26	18	21 1/2	26	18	21 1/2		14 x6 1/2
Pulley or									28	20	23 1/2	28	20	23 1/2		16 x6 1/2
Sproc't																
									24	16	19 1/2	23	15	18 1/2		12 x6 1/2
No. 3.									26	18	21 1/2	26	18	21 1/2		14 x6 1/2
20-inch									28	20	23 1/2	28	20	23 1/2	23	16 x6 1/2
Diam.	44	21	17	28 1/2	14	15	19 1/4	7 1/2	30	22	25 1/2	30	22	25 1/2		18 x7
Pulley or																
Sproc't																
									26	18	23	26	18	23		14 x6 1/2
No. 4.									28	20	25	28	20	25		16 x6 1/2
24-inch									30	22	27	30	22	27	27 1/2	18 x7
Diam.	49 1/2	23 3/4	21	32 1/2	14 1/4	20	22 1/2	9 1/4	32	24	29	32	24	29		20 x7
Pulley or									34	26	31	34	26	31		22 x8
Sproc't																

Steel Elevator Boots



Style G. Fig. 45187 (*Lactucosum*)

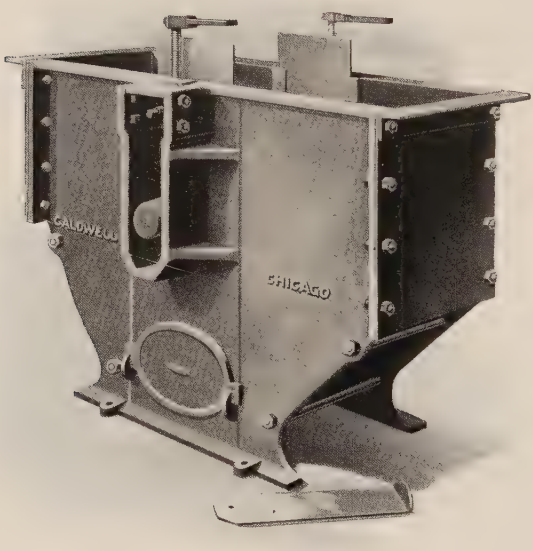
Our Steel Elevator Boots, Style G, are made with rigid cast iron side supports, which carry the weight of the elevator legs, and form the take-up frames. These boots are provided with steel slides and cast iron clean-out doors, so that they can be readily opened up in case of choke-up.

The prices below include the boot complete with shaft and either pulley or sprocket wheel. If sprocket wheel is wanted, be sure to specify the number of chain to be used.

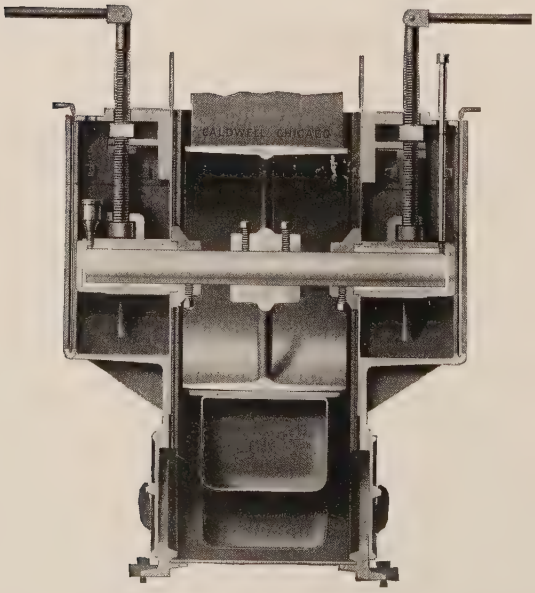
Price List, Subject to Discount

Number of Boot	Size of Bucket	CODE WORD	Price
3 18-inch Pulley or Sprocket	10 x 5½	Affligeant	$136.00
	11 x 6	Affliction	142.00
	12 x 6½	Affloric	150.00
	14 x 6½	Affluence	156.00
	16 x 6½	Affluently	162.00
3 20-inch Pulley or Sprocket	12 x 6½	Afflux	155.00
	14 x 6½	Affoler	165.00
	16 x 6½	Afforded	175.00

Special Dust-Proof Elevator Boot



Style B. Fig. 45188. (*Acadien*)



Special Dust-Proof Elevator Boots—Continued

Style B

This boot, shown in cuts on the opposite page, is designed for use with either wood or steel elevator legs. When Double Steel Legs, either round or square, are used, it is necessary to use a steel filler or extension piece on top of the boot, as shown in Fig. 45198, on page 174, so that the full amount of travel of the pulley may be secured. With Single Legs, this is not necessary.

The cross section cut shows the arrangement of the bearings and the dust proof feature. The ends of the bearings are closed, and by means of a sliding plate separating the interior of the boot from the housings for the bearings, the dust is kept away from the bearings.

Large Hand Holes are provided in the side castings, below the bearings, so that the boot can easily be cleaned out in case of a choke-up.

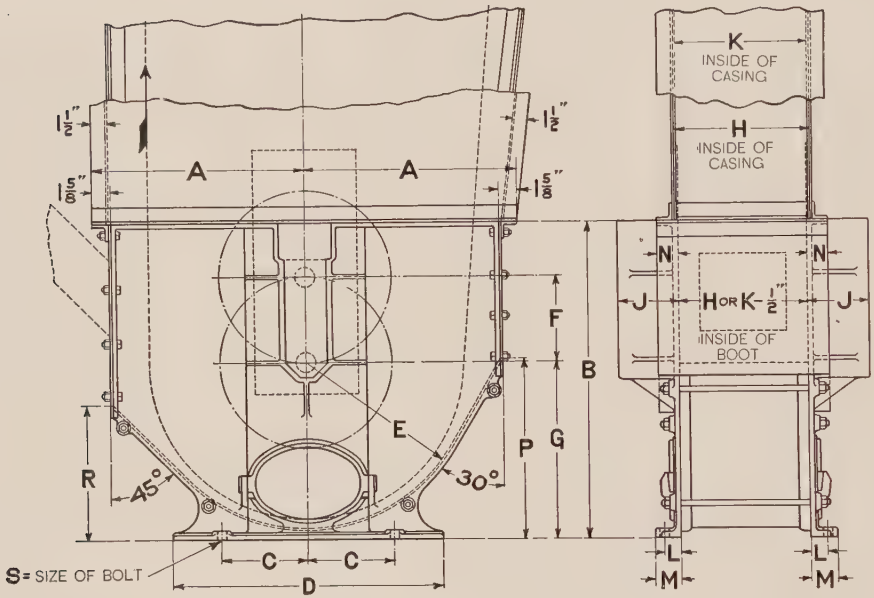
The prices below include the boot complete with shaft and with pulley or sprocket wheel. If required with sprocket wheel, be sure to specify the size of chain with which the sprocket is to be used.

Price List, Subject to Discount

Number of Boot	Size of Bucket	Diameter of Pulley or Sprocket	CODE WORD	Price
1B	3 x 3	12	Lager	$41.00
	3½ x 3	12	Lagerbaum	42.00
	4 x 3	12	Lagerbier	43.00
	4½ x 3½	12	Lagerbuch	44.00
2B	5 x 4	14	Lagerfass	51.00
	5½ x 4	14	Lagergeld	52.25
	6 x 4	14	Lagerhand	53.50
	7 x 4½	14	Lagerhaus	56.00
	8 x 5	14	Lagerhof	58.50
3B	8 x 5	16	Lagerhofes	76.00
	9 x 5½	16	Lagerholz	79.00
	10 x 5½	16	Lagerkeim	82.00
	11 x 6	16	Lagerkorn	85.00
	12 x 6½	16	Lagerkrone	88.00
4B	10 x 5½	18	Lagerkunst	110.00
	11 x 6	18	Lagerleben	114.00
	12 x 6½	18	Lagermotte	118.00
	14 x 6½	18	Lagerobst	126.00
	16 x 6½	18	Lagerort	134.00
5B	12 x 6½	20	Lagerorten	130.00
	14 x 6½	20	Lagerpest	138.00
	16 x 6½	20	Lagerplatz	146.00
	18 x 7	20	Lagerraum	154.00

For Dimensions, see following page.

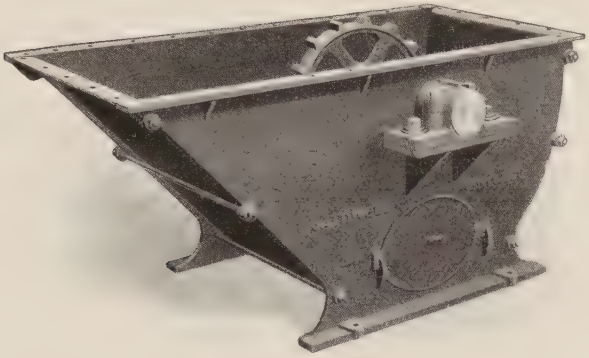
Special Dust-Proof Elevator Boots—Style B



Dimensions, Inches

Size of Boot and Pulley	A	B	C	D	E	F	G	H	J	K	L	M	N	P	R	S	Size of Buckets
No. 1B 12-inch Pulley	13¾	20	5	15	10	5	10¾	7	4½	6¾	1	1¾	1⅝	11¾	8⅞	⅝	3 x3
								7		6¾							3½x3
								8		7¾							4 x3
								9		8¾							4½x3½
No. 2B 14-inch Pulley	16½	24½	6½	20	13	6½	13½	9	5¼	8¾	1	1¾	1⅞	13	10⅛	⅝	5 x4
								10		9¾							5½x4
								10		9¾							6 x4
								11		10¾							7 x4½
								12		11¾							8 x5
No. 3B 16-inch Pulley	19½	29½	8	25	15⅝	8	16½	12	5⅞	11¾	1½	2⅜	1⅞	16¼	12½	¾	8 x5
								13		12¾							9 x5½
								14		13¾							10 x5½
								15		14¾							11 x6
								16		15¾							12 x6½
No. 4B 18-inch Pulley	22½	34	10	30	18¼	9½	19	14	6	13¾	1½	2⅜	1⅞	18¾	14¼	¾	10 x5½
								15		14¾							11 x6
								16		15¾							12 x6½
								18		17¾							14 x6½
								20		19¾							16 x6½
No. 5B 20-inch Pulley	25½	38½	11½	35	20¾	11	21½	16	6⅝	15¾	1½	2⅜	1⅞	21½	16¼	¾	12 x6½
								18		17¾							14 x6½
								20		19¾							16 x6
								22		21¾							18 x7

Special Rigid Bearing Elevator Boot



Style I. Fig. 45189. (*Alacritas*)

Rigid Bearing Boots are used in connection with Elevator Head Take-Ups, where it is necessary to take up the belt or chain from the head. Ordinarily Boot Take-Ups are preferred to Head Take-Ups, as the strain on the take-up screws is less and it is therefore easier to make the necessary adjustment. In certain cases, however, such as where the drive must be through the boot shaft, Head Take-Ups with the Rigid Bearing Boot must be used.

Our Rigid Bearing Boot is unusually strong and suitable for severe service. The hand holes are large and permit easy cleaning.

Prices on application.

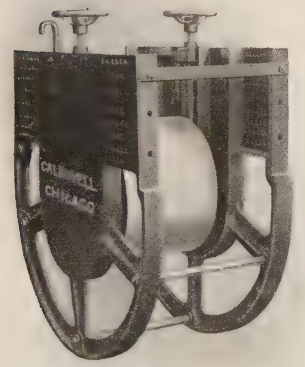


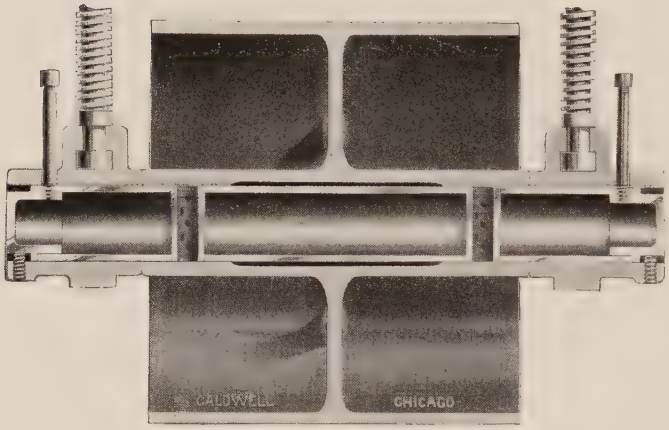
Fig. 45190. (*Agonistes*)

Marine Leg Boots for Unloading Vessels

We have patterns for improved marine boots of the design shown, of different capacities. We are also prepared to furnish all the ironwork necessary for use in connection with marine legs.

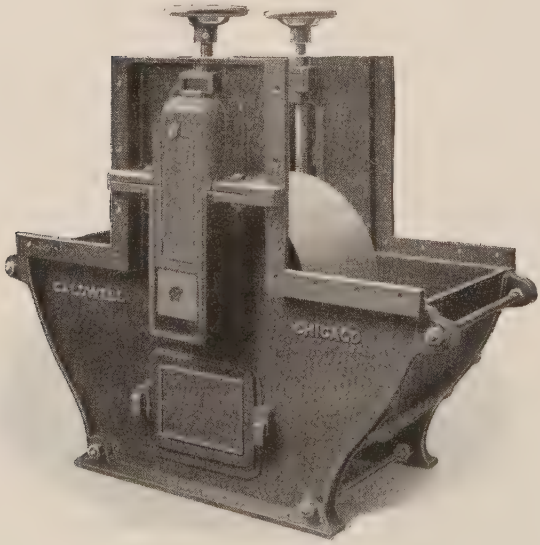
Prices upon application.

Brass Shaft Self-Oiling Elevator Boot



Style E. Fig. 45191. (*Lactucario*)

Wood Bearing Self-Oiling Boot



Style F. Fig. 45192. (*Lactucinus*)

The general design and dimensions of both of these types of Self-Oiling Boots is the same as our Improved Design Cast Iron Elevator Boots, as shown on pages 160 to 162. Description of the Self-Oiling features and price list is given on the opposite page.

Self Oiling Elevator Boots

The Brass Shaft Self Oiling Boots have a hollow brass shaft, with closed end, which contains the oil. The shaft is filled through the oil pipes—only requiring filling every three or four months. The small perforated tubes shown are set in holes in the brass shaft, and are filled with wicking. The oil saturates the wicking and is fed out to the bore of the boot pulley, which runs loose on the brass shaft. The bearing is practically dust proof and the danger from fire is greatly reduced.

The Wood Bearing Self Oiling Boots have journal bearings of hardwood thoroughly saturated with lubricant, and require no oiling or further attention. If worn out, they can be very quickly and easily replaced at very little expense.

The prices below include the boots complete with shaft and pulley or sprocket wheel. If required with sprocket wheel, be sure to specify the number of chain with which it is to be used.

Price List, Subject to Discount

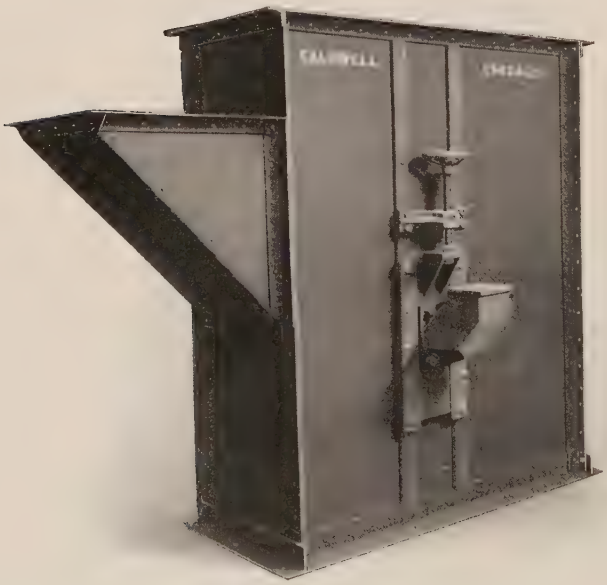
Number of Boot	Size of Bucket, Inches	Diameter of Pulley, or Sprocket Inches	Face of Pulley, Inches	Width of Belt, Inches	CODE WORD For Size Only	Price Brass Shaft Boot	Price WoodBearing Boot
0	3 x 3	12	4	3½	Adverbial	$33.00	.....
	3½ x 3	12	4½	4	Adversable	34.00	.....
	4 x 3	12	5	4½	Adversary	35.00	.....
	4½ x 3½	12	5½	5	Adverse	36.00	.....
	5 x 4	12	6	5½	Advertence	37.00	.....
	5½ x 4	12	6½	6	Advertent	38.00	.....
1	5 x 4	14	6	5½	Advertiser	49.00	.....
	5½ x 4	14	7	6	Advisary	51.50	.....
	6 x 4	14	8	7	Advisement	54.00	.....
	7 x 4½	14	9	8	Advocacy	56.50	.....
	8 x 5	14	10	9	Advocate	59.00	.....
2	8 x 5	16	10	9	Advocating	68.00	$65.00
	9 x 5½	16	11	10	Advolution	71.00	68.00
	10 x 5½	16	12	11	Advoutre	74.00	71.00
	11 x 6	16	13	12	Advowson	77.00	74.00
	12 x 6½	16	14	13	Adze	80.00	77.00
3	10 x 5½	18	12	11	Aeratingly	103.00	100.00
	11 x 6	18	13	12	Aeration	107.00	104.00
	12 x 6½	18	14	13	Aerial	111.00	108.00
	14 x 6½	18	16	15	Aeriform	119.00	116.00
	16 x 6½	18	18	17	Aerolite	127.00	124.00
3	12 x 6½	20	14	13	Aerology	113.00	110.00
	14 x 6½	20	16	15	Aeromancy	121.00	118.00
	16 x 6½	20	18	17	Aerometer	129.00	126.00
	18 x 7	20	20	19	Aeronaut	137.00	134.00
4	14 x 6½	24	16	15	Aerophobia	139.00	135.00
	16 x 6½	24	18	17	Aeroscopy	149.00	145.00
	18 x 7	24	20	19	Aerostat	159.00	155.00
	20 x 7	24	22	21	Aesthetic	169.00	165.00
	22 x 8	24	24	23	Aetiology	179.00	175.00

For dimensions of Self Oiling Boots, see dimensions of Improved Cast Iron Elevator Boots, page 162.

When telegraphing, use code word for style under cut on opposite page and follow by code word for size given in list above.

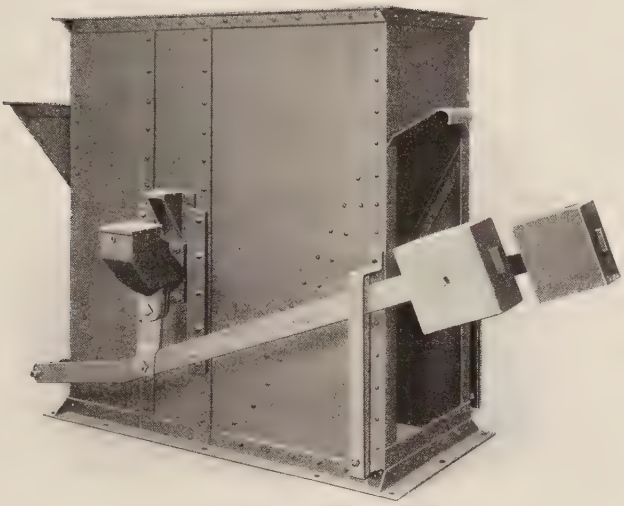
Steel Elevator Boots

Fig. 45193. (*Limatorum*)
With Style M take-up. Prices upon application



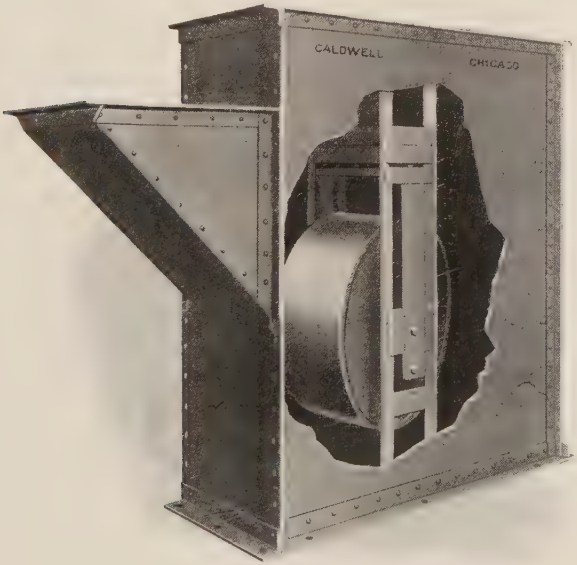
Style D. Fig. 45194. (*Lactucosos*)
With Grease Pocket Bearing Take-Ups

Gravity Take-Up Elevator Boots



Style H. Fig. 45195. (*Lactucone*)

Lever Type Boot, with Grease Pocket Bearings. Prices upon application



Style J. Fig. 45196. (*Lactucosi*)

Weighted Drum Boot, with plain bearings. Prices upon application

Wood Elevator Casings, Heads, and Boots

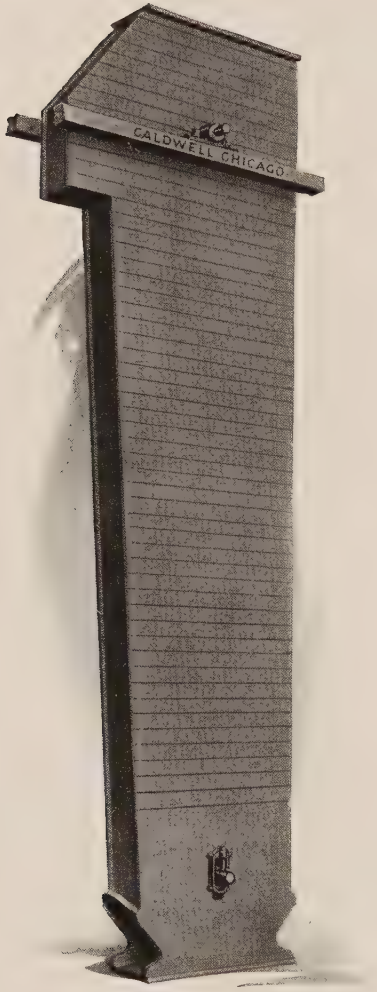


Fig. 45197. (*Amacre*)

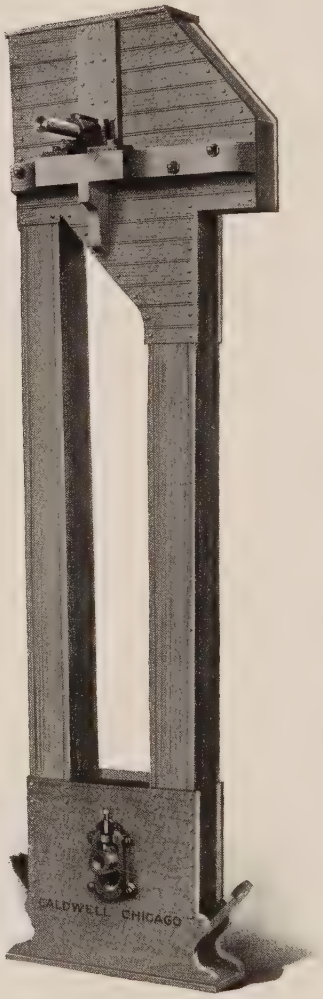


Fig. 45198. (*Lotspraak*)

We are prepared to furnish Wood Casings for elevators, either of the Single Leg or Double Leg construction. Our wood casings are all made of well seasoned lumber, carefully finished by good millwrights. The heads are furnished split horizontally, or can be furnished split both horizontally and vertically at slight additional charge.

If desired the wood legs and heads can be furnished in connection with cast iron boots.

Price list on opposite page.

Wood Elevator Heads

The prices below do not include shaft, head pulley, bearings or other iron work, but only the wood head.

Price List, Subject to Discount

Size of Bucket, Inches	Price Wood Head Only	CODE WORD	Diameter of Standard Head Pulley, Inches	Nominal Thickness of Lumber, Inches	Recommended Size of Head Shaft, Inches	
					Elev. 30 Ft. High and Less	Elev. 30 to 50 Ft.
6 x 4	$54.00	Affuse	24	1	$1\frac{15}{16}$	$1\frac{15}{16}$
7 x 4½	60.00	Affusion	24	1	$1\frac{15}{16}$	$1\frac{15}{16}$
8 x 5	70.00	Afiladera	30	1½	$2\frac{3}{16}$	$2\frac{7}{16}$
9 x 5½	75.00	Aforado	30	1½	$2\frac{3}{16}$	$2\frac{7}{16}$
10 x 5½	85.00	Afraid	36	1½	$2\frac{3}{16}$	$2\frac{7}{16}$
11 x 6	90.00	Afresh	40	1½	$2\frac{7}{16}$	$2\frac{15}{16}$
12 x 6½	105.00	Aftermath	40	1½	$2\frac{7}{16}$	$2\frac{15}{16}$
14 x 6½	135.00	Afterpiece	48	1½	$2\frac{15}{16}$	$3\frac{3}{16}$
16 x 6½	150.00	Aftolar	48	1½	$3\frac{3}{16}$	$3\frac{7}{16}$
18 x 7	180.00	Agacant	54	1½	$3\frac{3}{16}$	$3\frac{7}{16}$

Wood Elevator Boots

The prices below include Boot Shaft, Adjustable Take-Up Bearings, Set Collars, Boot Pulley or Sprocket Wheel, and the Wood Boot. If sprocket wheel is required, be sure to specify the number of chain which is to be used.

Price List, Subject to Discount

Size of Bucket, Inches	Price Wood Boot, Complete	CODE WORD	Diameter of Boot Pulley, Inches	Diameter of of Shaft, Inches	Travel and Kind of Take-up,	Nominal Thickness of Lumber, Inches
6 x 4	$80.00	Agedness	14	$1\frac{7}{16}$	3″—Spcl.	1
7 x 4½	90.00	Agenda	14	$1\frac{7}{16}$	3″—Spcl.	1
8 x 5	110.00	Agestado	16	$1\frac{7}{16}$	3″—Spcl.	1½
9 x 5½	115.00	Aggerated	16	$1\frac{7}{16}$	3″—Spcl.	1½
10 x 5½	130.00	Aggerose	18	$1\frac{15}{16}$	9″—Style A	1½
11 x 6	135.00	Aggrace	18	$1\frac{15}{16}$	9″—Style A	1½
12 x 6½	155.00	Aggrandize	20	$1\frac{15}{16}$	9″—Style A	1½
14 x 6½	200.00	Amarrato	24	$2\frac{3}{16}$	9″—Style A	1½
16 x 6½	220.00	Aggregator	24	$2\frac{3}{16}$	9″—Style A	1½
18 x 7	260.00	Aggress	24	$2\frac{3}{16}$	9″—Style A	1½

Wood Elevator Legs

Price List, Subject to Discount

Size of Buckets, Inches	Single Legs, Fig. 45197		Nominal Thickness of Lumber, Either Style, Inches	Double Legs, Fig. 45198	
	Price per Foot	CODE WORD		Price per Foot for Both Legs	CODE WORD
6 x 4	$ 5.50	Leucolithe	1	$ 7.00	Leucophora
7 x 4½	6.50	Leucoma	1	8.00	Leucophyte
8 x 5	8.25	Leucomoria	1½	9.75	Leucopode
9 x 5½	8.50	Leucone	1½	10.00	Leucopolis
10 x 5½	9.00	Leuconicus	1½	10.50	Leucopse
11 x 6	9.50	Leuconique	1½	11.00	Leucopyge
12 x 6½	9.75	Leuconote	1½	11.25	Leucosia
14 x 6½	10.00	Leuconotus	1½	11.50	Leucoside
16 x 6½	10.50	Leucopathy	1½	12.00	Leucospis
18 x 7	11.00	Leucopatia	1½	12.50	Leucostome

Steel Elevator Casings

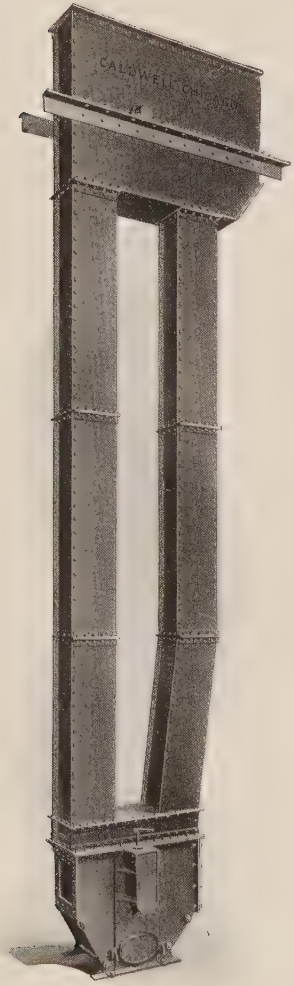


Fig. 45199. (*Aggracillo*)
Double Legs, Cast Iron Boot.

Fig. 45200. (*Agony*)
Single Leg, Cast Iron Boot.

Steel Elevator Casings are generally preferred to Wood Casings, being more durable and fireproof. We make these casings in all styles, and will be pleased to furnish estimates on application.

The Elevator Heads are generally made with horizontal split, but can be furnished with both horizontal and vertical split if desired. The Casings can be made dust tight at slight additional charge.

The head shaft bearings are supported by heavy angles, which should be fastened to either a steel or wood frame. The casings themselves are not generally made heavy enough to take the load of the head shaft machinery. Where necessary, however, the casings can be reinforced and made heavy enough so that the elevator will be self supporting.

Standard Dimensions are given on page 176.

Cross Sections of Steel Elevator Legging

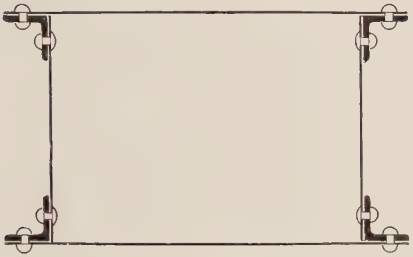


Fig. 45201. (*Lactumen*)
Angle Corner Construction, Style A.

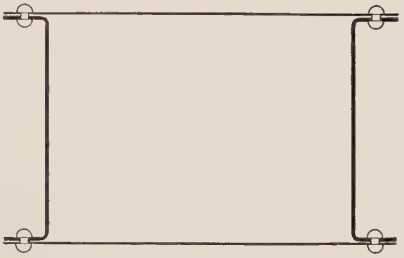


Fig. 45202. (*Lactuosas*)
Flanged Filler Construction, Style B.

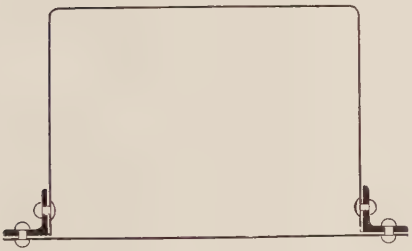


Fig. 45203. (*Lactuoso*) Style C.

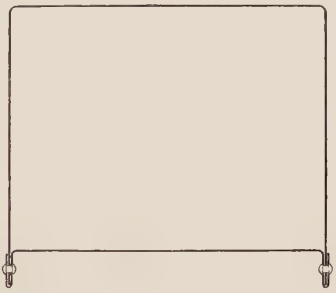


Fig. 45204. (*Limehound*) Style D

Style C and Style D constructions are generally used with legs of light gauge of steel, such as are used with flour mill elevators.

All of the above styles usually have steel angle flanges at each end of each section, to connect the sections together. Hinged or Bolted Doors in one or more sections can be supplied at additional charge, to permit of easy inspection of the interior of the legs.

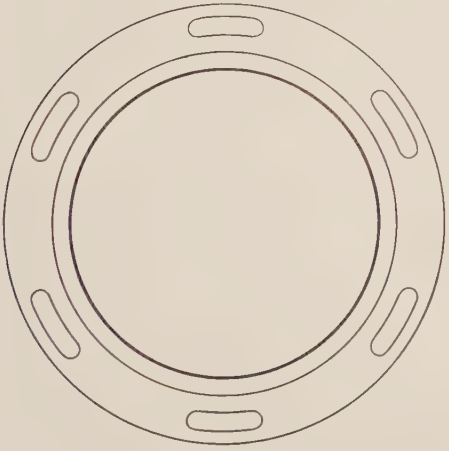
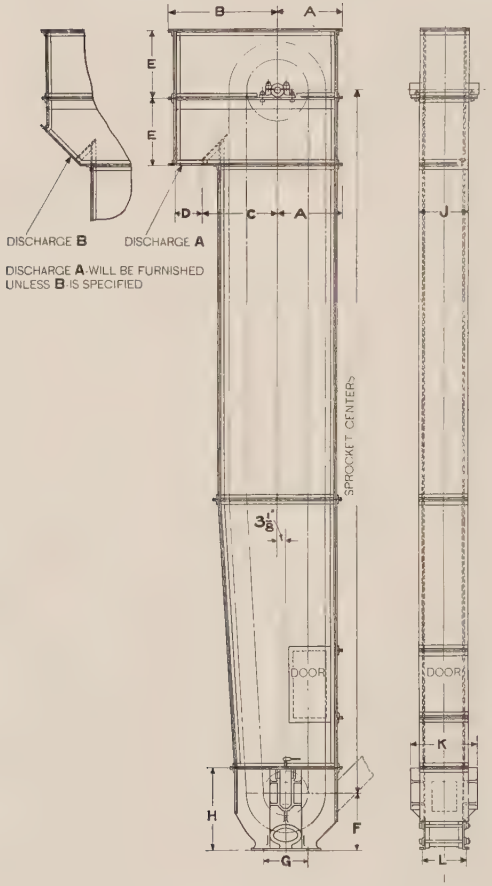


Fig. 45205. (*Lagascea*)

Round Steel Legs, with Cast Iron Flange Connections, as shown in Fig. 45205, are used to some extent in grain elevators and malt houses.

Standard Steel Elevator Casings



Dimensions, Inches

Size of Casing	Size of Buckets,	Size of Boot	Largest Diam. of Head Sprocket	A	B	C	D	E	F	G	H	J	K	L
No. 2	5 x 4	No. 2-B	21	19 5/8	33 5/8	25	7	21	16 3/4	13	24 1/2	12	18 3/4	10 1/4
	6 x 4	14-inch	21									13	19 3/4	11 1/4
	7 x 4 1/2	Diameter	19 1/2									14	20 3/4	12 1/4
	8 x 5	Sprocket	19 1/2									15	21 3/4	13 1/4
No. 3	8 x 5	No. 3-B	24	22 5/8	38 5/8	27	10	24	20 1/2	16	29 1/2	15	23	14 1/4
	9 x 6	16-inch	23									16	24	15 1/4
	10 x 6	Diameter	23									17	25	16 1/4
	11 x 6	Sprocket	23									18	26	17 1/4
No. 4	10 x 6	No. 4-B	28	25 5/8	44 5/8	30	13	28	23 3/4	20	34	17	25 1/4	16 1/4
	11 x 6	18-inch	28									18	26 1/4	17 1/4
	12 x 7	Diameter	25 1/4									19	27 1/4	18 1/4
		Sprocket												
No. 5	12 x 7	No. 5-B	30 1/2	28 5/8	49 5/8	33	15	30	27	23	38 1/2	19	28 1/2	18 1/4
	14 x 8	20-inch	28									21	30 1/2	20 1/4
	16 x 8	Diameter	28									23	32 1/2	22 1/4
		Sprocket												

Special Steel Elevator Casings

Fig. 45206. (*Lapageria*)

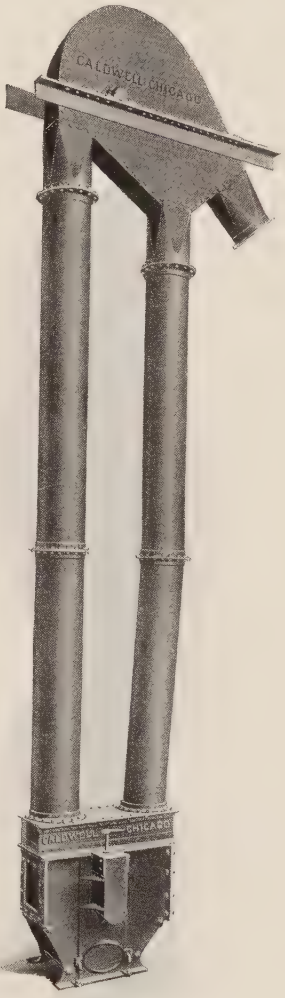


Fig. 45207. (*Agonize*)

The Casing shown in Fig. 45206, is of light construction, for use in flour mill work and has a special narrow steel boot, with special take-ups. Where several elevators must be placed close together, this type of construction saves the greatest amount of space.

The Round Elevator Legs, shown in Fig. 45207, are used to some extent in grain elevator and malt house work. The boot shown is our Style B Special Dust Proof Boot, fitted with a steel section at the top, to permit of full travel of the boot pulley.

Prices on application.

Self-Contained and Portable Steel Elevator Casing

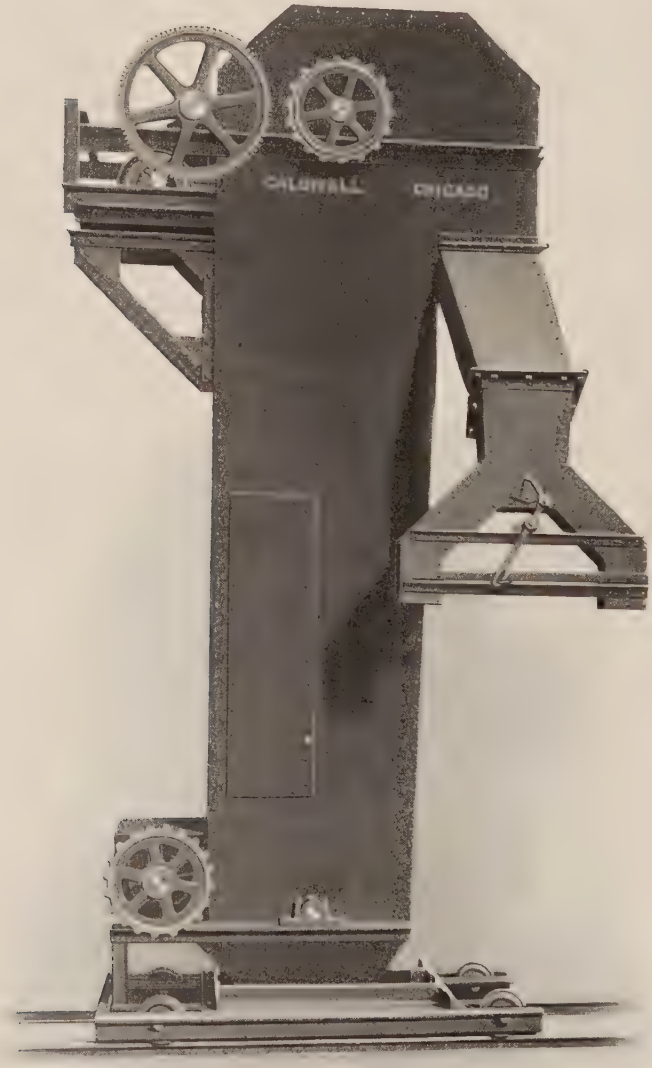


Fig. 45208. (*Draubac*)

This type of elevator moves on tracks and is readily moved from one receiving point to the next. It is driven by an electric motor mounted on the head frame, and is entirely self contained. The necessity of a separate elevator at each receiving point is done away with.

We are prepared to make elevators of this and similar types to suit particular conditions. We will be pleased to quote prices and submit designs upon receipt of information as to the work to be done.

Casing for Combined Bucket Elevator and Drag Conveyor

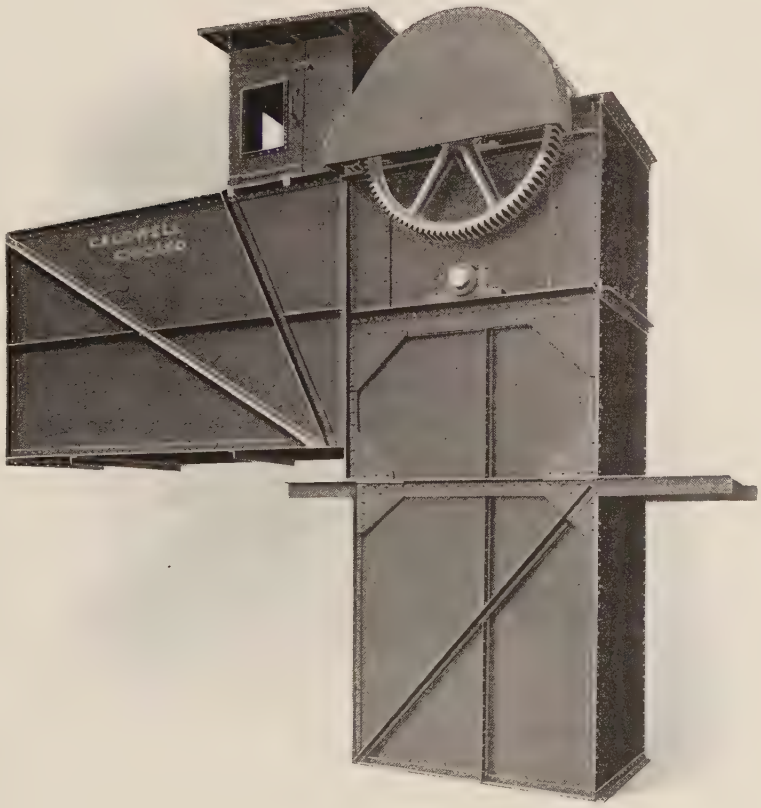


Fig. 45209. (*Lacturnus*)

We are prepared to design and manufacture heavy steel work of this and similar types. Where the machinery must be mounted upon the steel work, we fit up all parts in the shop before shipment, so that erection in the field can be accomplished with the least possible trouble.

We will be pleased to name prices upon receipt of drawings or information as to the work to be accomplished.

Spur Geared Drive for Elevator Head

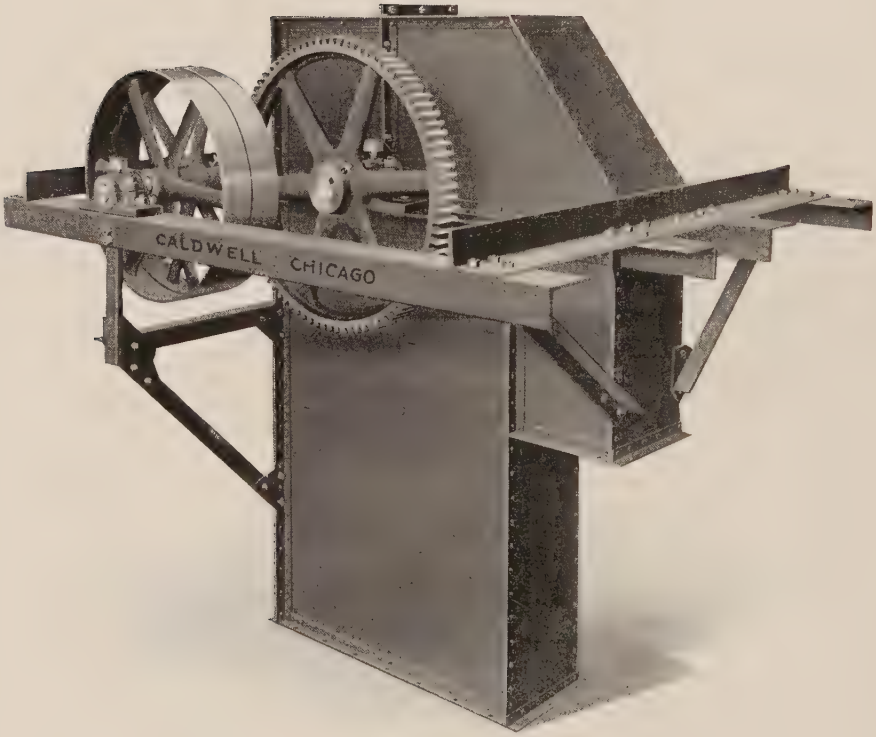


Fig. 45210. (*Limatulam*)

Ordinarily the drive for an elevator is supported independently of the elevator head. Where necessary, supports from the elevator head can be furnished. Elevators can be made entirely self supporting, up to reasonable heights, by increasing the size of angles in the casing, etc.

Bevel Gear Drive for Elevator Head

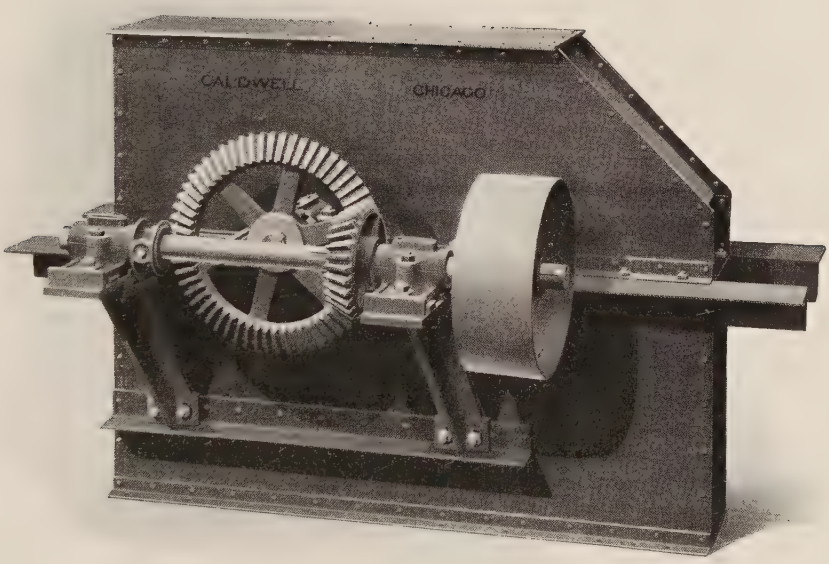


Fig. 45211. (*Lanciforme*)

The Bevel Gear Drive shown above is mounted on cast iron brackets, and has a cast iron angle plate to support the bearings.

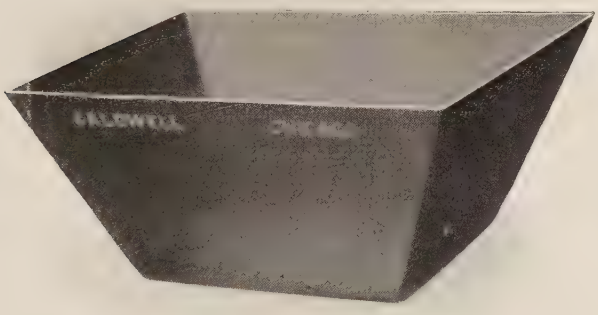
Structural Steel Frame for Special Sugar Beet Elevator

Fig. 45212. (*Lotsenboot*)

We can furnish structural steel frames for elevators and conveyors, and are particularly equipped for fitting the machinery to the frames before shipment. Where the steel work and machinery are made up at different shops, considerable fitting and alteration in the field is generally necessary, with consequent delay in erection. The greatest portion of this delay can be avoided by having the steel work and machinery made by the same manufacturer.

Steel Tanks for Elevator Boots

With Riveted Joints. Fig. 45213. (*Agonism*)



With Welded Joints. Fig. 45214. (*Lacunandos*)

Where elevator boots are below ground level, it is sometimes necessary to place them in a watertight boot tank as shown above. The sizes below are considered standard and cover most requirements, but we can furnish other sizes if necessary. Prices will be quoted upon special tanks upon receipt of specifications.

Price List, Subject to Discount

No.	Length at Top, Inches	Length at Bottom, Inches	Width, Inches	Height, Inches	THICKNESS OF STEEL			
					No. 12	No. 10	3/16	1/4
1	48	SAME AS TOP OR SMALLER	30	24	$ 70.00	$ 85.00	.....	.....
2	48		30	30	95.00	110.00	.....	.....
3	60		36	30	100.00	120.00	$125.00	$150.00
4	60		36	36	.....	135.00	145.00	175.00
5	72		40	36	.....	150.00	155.00	205.00
6	84		40	36	.....	175.00	180.00	240.00
7	90		44	40	.....	225.00	230.00	300.00
8	90		44	48	.....	240.00	250.00	340.00
9	96		48	48	.....	.....	270.00	355.00
10	96		48	54	.....	.....	290.00	385.00
11	108		48	54	.....	.....	315.00	425.00
12	108		48	60	.....	.....	345.00	460.00
13	108		54	60	.....	.....	360.00	490.00
14	120		54	60	.....	.....	390.00	525.00
15	120		60	60	.....	.....	415.00	550.00

Steel Plate Cycloidal Exhauster

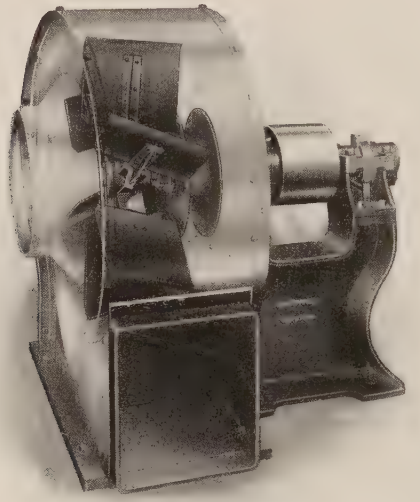


Fig. 45215. (*Lanceabais*)

This exhauster, which can be used for drawing dust, or for exhausting shavings, seed cotton and like material, is a decided improvement over the old type of fan. It runs at slow speed, takes little power, is durable and first-class in construction. All bearings are chain-oiling, and the housing bolts are so placed as to be easy of access.

Price List, Subject to Discount

Size, Inches	Price	CODE WORD	Diameter of Inlet, Inches	Width and Height of Outlet, Inches	Size of Pulley, Inches	Revolutions per Minute	Weight in lbs.
25	$110.00	Cill	10	10 x 10	7 x 4	1550 to 2000	300
30	120.00	Cice	12	11 x 10	7 x 4	1460 to 1900	350
35	160.00	Cidiot	14	12 x 13	8 x 5	1260 to 1700	500
40	190.00	Cidol	15	13 x 14	9 x 6	1110 to 1500	700
45	240.00	Cimagine	17	14 x 16	10 x 7	1030 to 1350	850
50	320.00	Cimbibe	19	16 x 18	11 x 7	870 to 1200	1050
55	400.00	Cimp	21	17 x 20	13 x 8	800 to 1050	1200
60	480.00	Cimpair	23	18 x 23	15 x 8	730 to 950	1650
70	660.00	Cimport	26	21 x 28	16 x 10	640 to 875	2600
80	840.00	Cimpose	30	24 x 36	18 x 12	570 to 700	2900
90	1100.00	Cimping	36	28 x 40	20 x 12	500 to 625	3300

The cut shows a right-hand exhauster. In ordering specify whether right or left hand is wanted.

The size of fan denotes height if with horizontal discharge, and length if with vertical discharge.

Caldwell Heavy Type Barrel Elevator

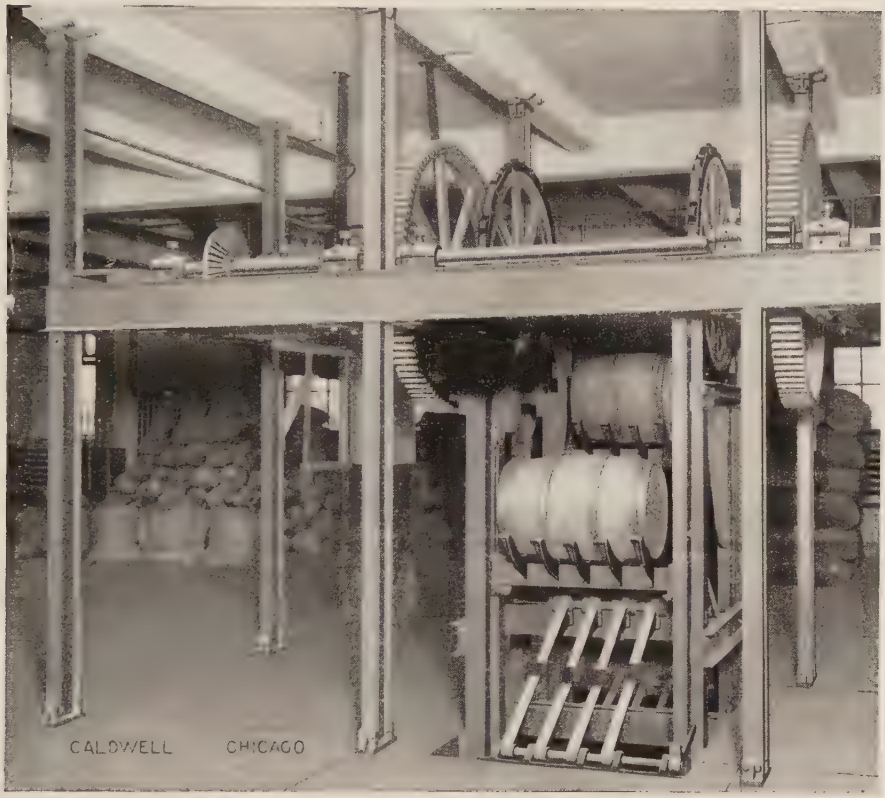


Fig. 45216. (*Ladleful*)

The Heavy Type of Barrel Elevator shown above is used for the most severe service and where the elevator must lift to considerable heights. The elevator shown in the cut was installed in a flour mill and was arranged to load or unload at any one of seven stories. The barrels are picked up and discharged automatically. When lowering to a lower floor, the barrels are picked up on the lifting side, carried over the head and down the other strand, being discharged by means of the movable fingers shown in the cut.

The size of chain and head gearing can be varied to suit any conditions. We are prepared to furnish these elevators either with or without steel frame, for practically any load or height. Prices will be quoted upon receipt of information as to weight and sizes of packages, height to be elevated, number of floors to be served, kind of power available, etc.

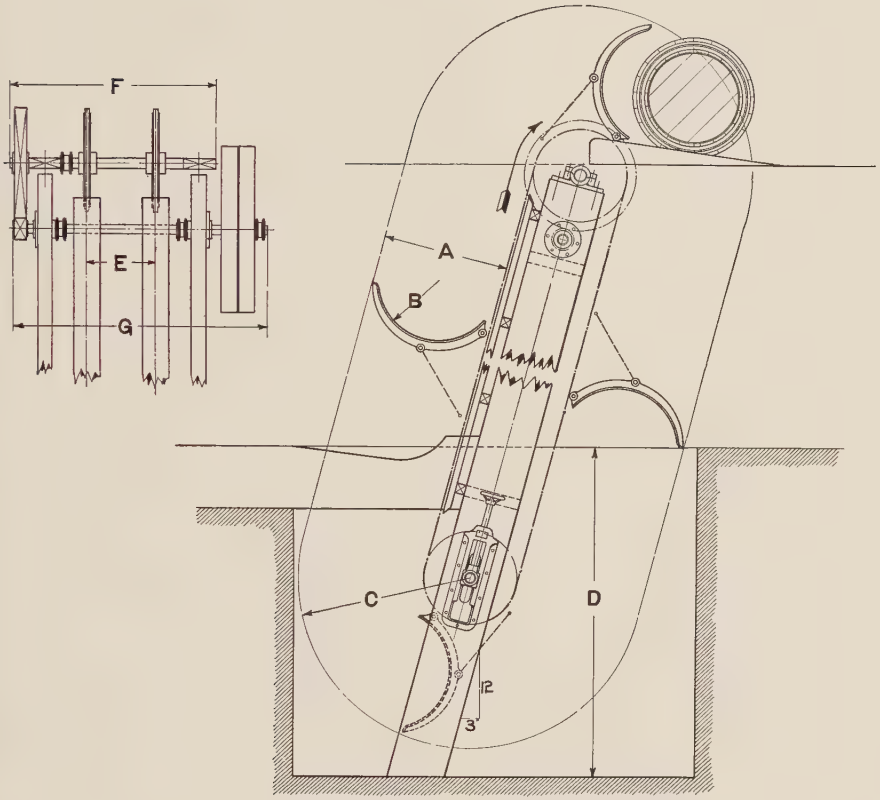
Caldwell Sack, Keg, and Barrel Elevator

Fig. 45217. (*Agreeably*)

Elevators of this type are used to handle material in kegs or barrels, and with slightly different arms, to handle boxes, sacks, etc. When handling barrels or kegs, the barrels are picked up from a slightly inclined runway at the foot of the elevator, automatically, and roll away from the carrying arms at the head of the elevator without attention from an operator. By the use of suitable runways, hinged so as to be out of the way except when needed, the barrels can be loaded at any floor.

Prices will be quoted either upon complete elevators with frame or without frame, upon receipt of information as to the size and weight of barrels or packages, height to be elevated, kind of power available, etc.

Caldwell Sack, Keg, and Barrel Elevators

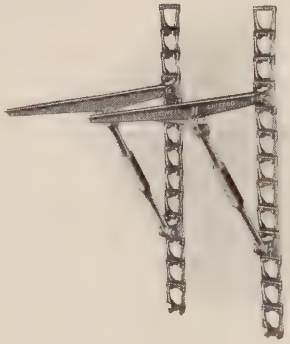


Dimension, Inches

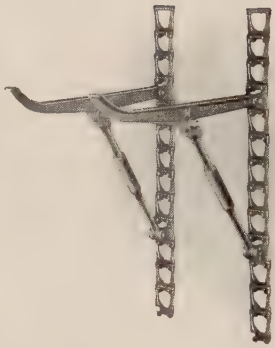
Style of Arm	Chains Used	Diameter Sprocket	A	B	C	D	E	F	G
Curved	No. 78-No. 88	20	27½	13	38	68	12	48	54
Curved	No. 78-No. 88	24	20	9	33	60	15	46	61
Curved	No. 320	20	27½	13	38	68	15	51	57
Curved	No. 325	23½	27½	13	40	72	15	46	62
Curved	No. 103	15½	27½	13	36	72	15	45	59
Straight	No. 78-No. 88	18½	20	.....	30	48	14½	46	60
Straight	No. 103	23½	16	.....	28	62	24	52	65

Elevator Arms

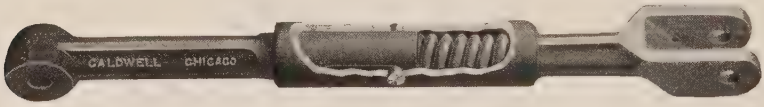
Curved Elevator Arms.
Fig. 45218. (*Abrasar*)



Straight Arms.
Fig. 45219. (*Abrevie*)



Straight Arms, Curved Tip.
Fig. 45220. (*Abricots*)



Cushion Spring Brace. Fig. 45221. (*Ladocea*)

Our standard elevator arms are equipped with the Cushion Spring Brace, as shown in cut. This device cushions the shock of picking up the load, reduces the stress on the chain and permits the operation of the elevator at a higher speed than with the ordinary solid brace, with consequent greater capacity.

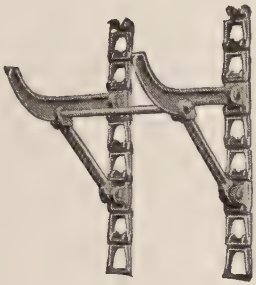
The standard elevator arms are made of the best malleable iron, and are amply heavy for the work intended. For unusually heavy work we can furnish arms of steel, especially designed for the load to be carried. Prices on application.

Prices on standard sets below include two arms, two cushion spring braces, one cross rod with two nuts, one piece of spacing pipe of proper length, and four links of M3 attachments with pins and cotters.

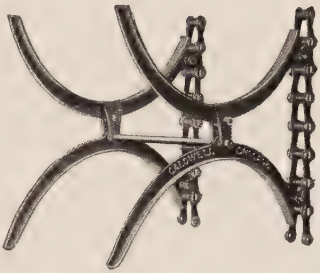
Price List, Subject to Discount

Style of Arms	Size of Chain Used	For Use With	CODE WORD	Price per Set
Straight Arms.....	78 83	Boxes or Blocks...	Amartus	$15.00
Straight Arms with curved tip.....	78 83	Boxes or Blocks...	Abridor	15.00
Curved Arms 18 in. diameter.....	78 83	Kegs, Small Barrels, etc.	Abrique	15.00
Curved Arms 26 in. diameter.....	103 320 325	Heavy Barrels, Tierces, etc.	Abriles	16.00

Elevator Arms



Curved Elevator Arms, Short, Heavy Pattern.
Fig. 45222. (*Abraum*)



Double Arms for Raising and Lowering.
Fig. 45223. (*Abretone*)

The Short Heavy Pattern Elevator Arms are used when the standard pattern would not be strong enough. They are made with solid braces and are very rugged.

Each set includes two arms, two braces, connecting rod with nuts, four M3 attachments with pins and cotters.

Price, per set, subject to discount.....$14.00

Double Elevator Arms are used when it is desired to raise and lower barrels on the same elevator.

Each set includes four arms, cross rod with nuts, four M3 attachments with pins and cotters.

Price, per set, subject to discount.....$18.00

Automatic Discharging Elevator Arms

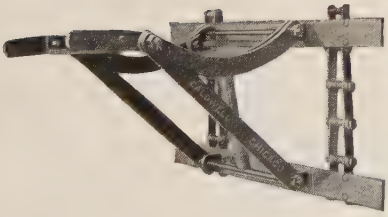


Fig. 45224. (*Ladogasee*)
Carrying Position.

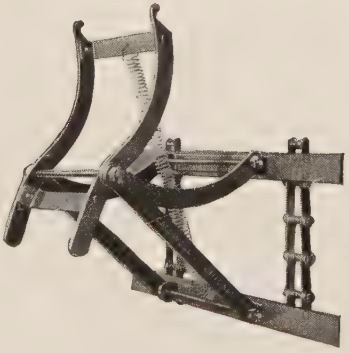


Fig. 45225. (*Ladonem*)
Discharging Position.

The projecting fingers of these Automatic Discharging Elevator Arms strike a cam or operating arm at the floor where it is desired to discharge the barrel. The carrier is tipped up and the barrel raised and allowed to roll off.

Each set is complete as shown and includes the attachment links for the chain.

Price, per set, subject to discount.....$54.00

Caldwell Package Elevator

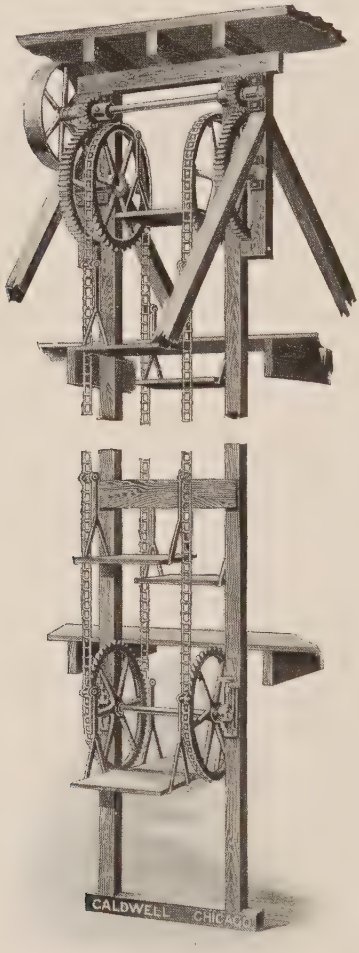


Fig. 45226. (*Amartelo*)

Tray Elevators similar to that shown above can be made to suit almost any conditions. The trays always remain horizontal, and the elevator can be used both for elevating and lowering. The material or packages must be loaded on to the trays by hand and also taken from them.

The size of trays and weight of chain vary to suit the individual conditions of each installation. We will be pleased to quote prices upon receipt of information as to the size and weight of packages, quantity to be handled, height to be elevated, kind of power available, etc.

Caldwell Package Elevators

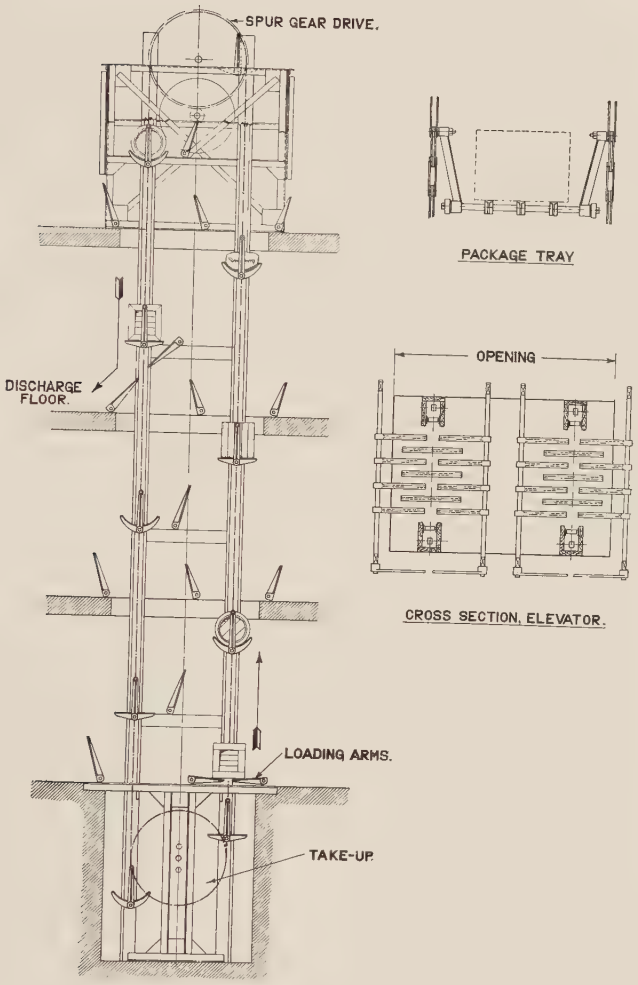


Fig. 45227. (*Lotsengeld*)

The Package Elevator above is one of a type of which we have made a large number. The size of trays, strength of chain and other details can be changed to suit practically any conditions. Prices will be quoted upon receipt of information as to size of packages, maximum weight, number to be handled per minute, distance to be elevated, kind of power available, etc.

Caldwell Man Lift

Fig. 45228. (*Lacullarum*)

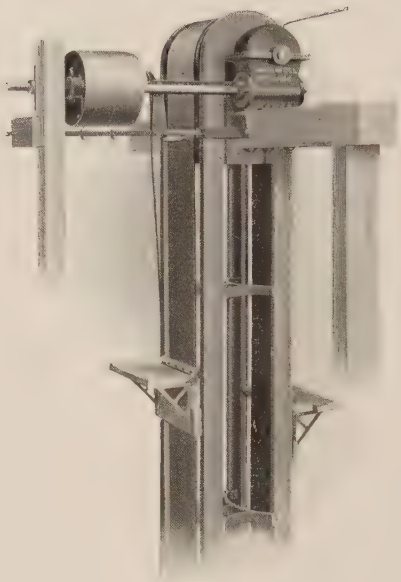


Fig. 45229. (*Lacullis*)

The Man Lift shown above is used extensively in flour mills and other plants where the employees have occasion to go from floor to floor frequently. The elevator is started from any floor by means of a belt shifting rope, and can also be shut off from any floor, so that when it is used infrequently, power is not wasted. The elevator runs at such a speed that the men can step on or off without shutting down the machine. A safety device is provided at the head so that there is no possibility of a man being carried over the top of the elevator.

The elevator is furnished complete with wood or steel frame, ready to install, and is shipped knocked down. It requires from three to five horse power to operate, depending on the height.

Prices will be quoted upon either steel or wood construction upon receipt of information as to height between bottom and top floors, and height available below the first floor and between the top floor and ceiling.

Caldwell Electric Bin Crane

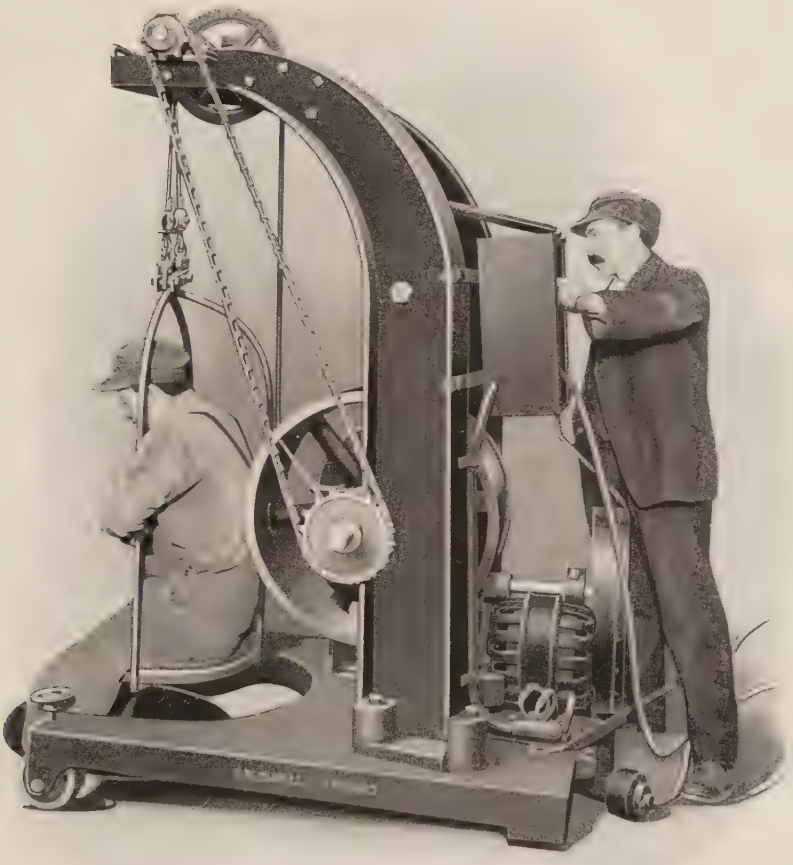


Fig. 45230. (*Langbeil*)

This hoist is a special type of crane, electrically operated, and used to lower workmen and material into deep bins for cleaning and repairing them. The hoist is portable and the power supplied through a flexible cable. Where there are a large number of deep bins, as in grain elevators, with openings at the top on a single floor, this hoist will be found a great convenience, and will quickly pay for itself in time saved.

Prices will be quoted upon application.

Cast Iron Turn Spouts

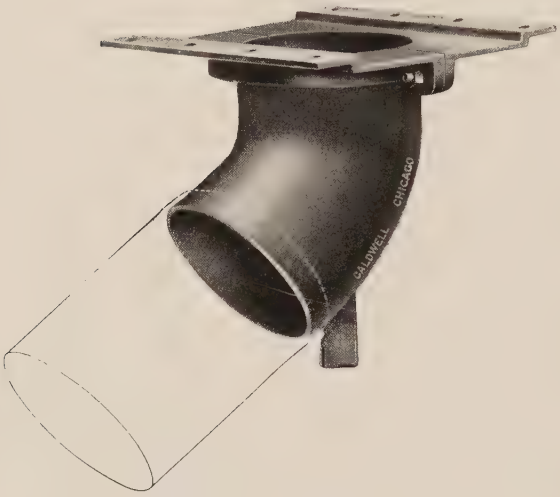


Fig. 45231. (*Albacete*)

Fig. 45232.
(*Ladrasemos*)

These spouts are made entirely of cast iron. They have square projections as shown, over which the sockets fit to turn the spouts. The sockets are attached by indicator rods to indicator stands on first floor of elevator.

Sheet steel extension spouts can be furnished of any length desired. Prices quoted upon receipt of sketch or dimensions.

Gates are not needed where the turn spouts are used at elevator head.

Prices of spout includes split plate, cast iron elbow and socket, but does not include gate or sheet steel extension spout.

Price List, Subject to Discount

Diameter of Spout, Inside, Inches	Price, Spout only	CODE WORD For Spout	Price, Gate only	CODE WORD For Gate	Size of Head Plate, Inches
6	$14.00	Albanian	$1.50	Leucotalmo	12x12
8	17.00	Albatross	2.00	Leucottero	13x13½
9	20.00	Alberge	2.25	Leucozomos	14x15
10	30.00	Albeuve	2.55	Leucozomum	15x16
12	40.00	Albicore	3.00	Leucozone	18x18
16	60.00	Albino	3.75	Leuctrum	22x23

Special Cast Iron Turn-Head with Hopper

Fig. 45233. (*Alembroth*)

The elbow fits over the hopper bottom loosely and is supported by the rod, and not by the hopper bottom. This prevents binding in case of unequal settling of the building.

The entire spout is cast iron and very durable. Price includes hopper and elbow, but no extension spout or rod.

Price List, Subject to Discount

Diameter of Spout, Inches	Price	CODE WORD	Outside Dimensions of Head Plate, Inches
7	$20.00	Alenois	15 1/8 x 15 1/8
9	28.00	Alentour	15 7/8 x 15 7/8
12	40.00	Alert	17 3/8 x 17 3/8

Ball Bearing Turn Spouts

Fig. 45234. (*Ladrasteis*)

Where the extensions are unusually long, a ball bearing spout is frequently used and will be found easier to turn.

The head plate is of cast iron and the elbow and extension spout is made of sheet steel.

Prices upon application

Wrought Steel Turn-Heads

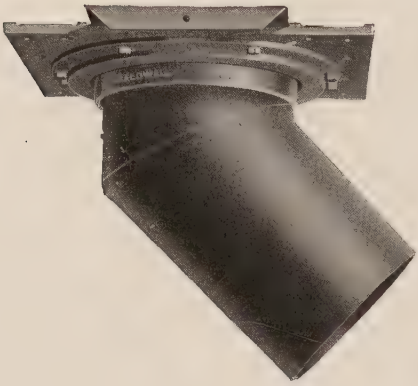


Fig. 45235. (*Albolate*)

Fig. 45236. (*Ladrases*)
Socket piece for Indicator Rod.

We recommend Cast Iron Turn Heads as being more durable than Wrought Steel Turn Heads, but are prepared to furnish all styles and sizes of Steel Turn Heads.

The Socket Piece is used when an indicator rod is used. The socket is riveted to the bottom of the spout.

Price of spout includes steel slide as shown.

Price List, Subject to Discount

Diameter of Spout, Inches	Price	CODE WORD	Extra for Socket Piece
6	$11.00	Albona	$1.20
8	14.00	Alborace	1.65
9	17.00	Albugine	1.65
10	20.00	Album	2.40
12	24.00	Albumine	2.40

Cast Iron Straight Discharge Spout

Fig. 45237. (*Algid*)

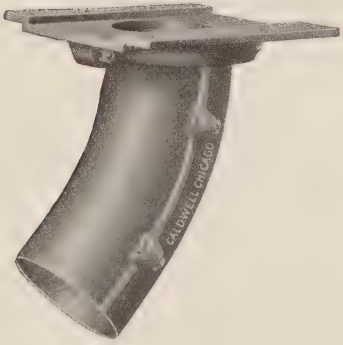
Used in bottoms of bins, or as a floor opening. Made in one size only, 6 inches inside diameter, with head plate 11 inches square.

The lugs are used to hold extension spouts.

Price, subject to discount.....$3.00

Split Cast Iron Swivel Spouts

Square End
Fig. 45238. (*Algarade*)



Round End
Fig. 45239. (*Alertness*)

These spouts are generally used in bin bottoms. Both the bin bottom plate and spout are split. Price includes the bin bottom plate, spout, and a slide gate.

Price List, Subject to Discount

Inside Diameter, Inches	Size of Bin-Bottom Plate, Inches	Price	CODE WORD, Square End	CODE WORD, Round End
6	12x12	$ 9.00	Algates	Alesage
8	13x13½	10.00	Algarian	Alfange
10	15x16	15.00	Algebra	Alfet
12	18x18	21.00	Algebraist	Algalie
16	21x24	35.00	Algidity	.....

Distributing Spouts for Elevator Heads

Style A. All steel.
Fig. 45240. (*Alderman*)

Style B. Cast Iron Hopper and Upper Elbow, balance steel.
Fig. 45241. (*Aldern*)

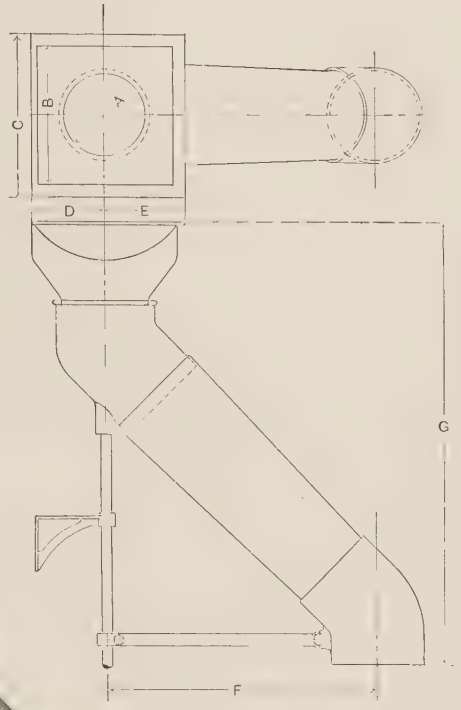
Price List and Dimensions

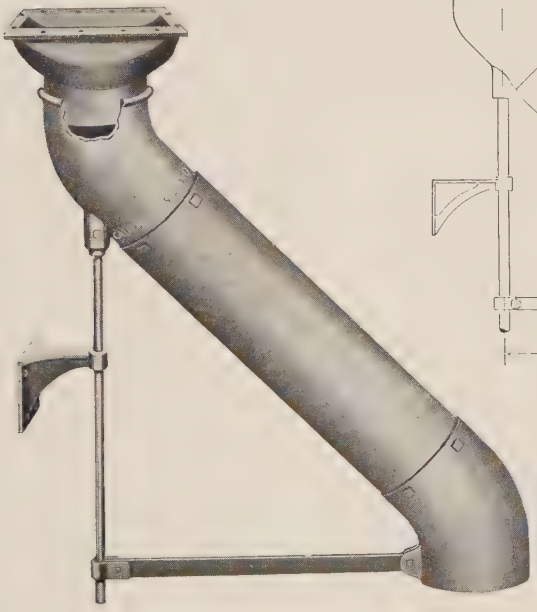
Diameter of Spout, Inside, Inches	Center of Rod to Center of Discharge, Inches	Top of Hopper to Bottom of Spout, Inches	Price, Style A	CODE WORD	Price, Style B	CODE WORD
6½	30	33	$27.00	Acetify	$36.00	Aleberry
9	36	41¼	36.00	Acetose	48.00	Alecost
12	42	47½	45.00	Acre	60.00	Alegar
14	48	54¾	55.00	Limekiln	75.00	Langlebig

The measurements from center of rod to center of discharge can be increased or decreased to suit customers.

Distributing Spout for Elevator Heads

The hopper fits loosely in the revolving spout and allows the spout to turn freely; the hopper is fastened to the discharge spout from elevator head and the spout is supported by the bracket and indicator stand, with which it is connected by a continuation of the rod.





As the hopper and spout are separate, any settling of the building is easily adjusted.

Style C. Hopper, Upper and Lower Elbows, Cast Iron; Balance Steel.

Fig. 45242. (*Aleconner*)

Price List, Subject to Discount

DIMENSIONS							Price	CODE WORD
A Diameter of Spout, Inches	B Inches	C Inches	D Inches	E Inches	F Inches	G Inches		
7	13½	16	7	8	39	64	$85.00	Alegrana
9	15½	18	8	9	39	64	105.00	Alehouse
12	19¾	23¼	10⅜	11⅝	39	64	170.00	Alembic

Steel Crane Spout with Hopper

For Head of Elevator

Fig. 45243. (*Alcudia*)

The bottom of this spout is made of cast iron where the grain falls upon it from the elevator; the hopper and the balance of the spout are made of heavy sheet steel. The spout revolves—a projection being provided for the indicator rod socket.

The movable section at the delivery opening of the spout is arranged so that it can be lifted while the spout is being shifted, and it will of its own weight fall into the opening with which it is desired to connect, thus making a continuous spout and preventing the scattering of grain.

In ordering steel crane spouts it is well to give inside measurements of elevator discharge spout if possible, and state size of elevator buckets used.

The 8-inch spout is suitable for buckets 6 to 9 inches long.
The 10-inch spout is suitable for buckets 9 to 12 inches long.
The 12-inch spout is suitable for buckets 12 to 16 inches long.

Price List, Subject to Discount

Diameter of Spout	Price	CODE WORD
8 inches	$15.00	Aldego
10 inches	17.00	Aldegonde
12 inches	21.00	Alder
12 inches for ear corn	24.00	Alderbush

Hall Signalling Grain Distributor

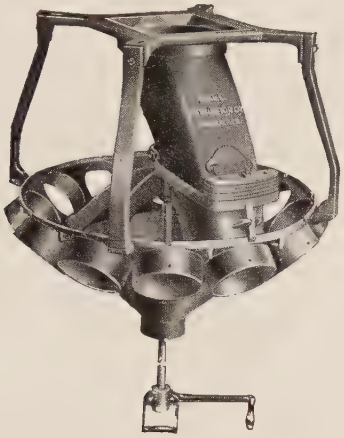


Fig. 45244. (*Accumb*)

The use of this device renders impossible the mixing of grain in the various bins at the point of distribution in the elevator cupola, either from inaccurate locking or the filling of bins. It occupies less room than other devices, and where it is installed the operator is not required to visit the cupola for the purpose of properly distributing the grain. It is locked and unlocked entirely from the lower floor, and cannot be locked out of connection with the bin.

The Automatic "Signal." When the bin becomes full, or a spout gets clogged, and the grain backs up in the tube to the spout, it cannot back up any higher because it instantly and automatically "signals" the operator on the lower floor that the bin is full. The operator then shuts off the inflowing grain until the signaling ceases, and then turns his spout, now empty, to another bin without mixing any of the grain.

Price List, Subject to Discount

For Cups 10x6 and Smaller				For Cups Larger than 10x6				For Any Size Cup				For Filling Garners or Scales—in Large Elevators			
No.	No. of Ducts	Price Each	Shipping Weight	No.	No. of Ducts	Price Each	Shipping Weight	No.	No. of Ducts	Price Each	Shipping Weight	No.	No. of Ducts	Price Each	Shipping Weight
68	8	$180.00	435	78	8	$190.00	475	84	4	$140.00	375	916	1	$100.00	200
610	10	220.00	545	710	10	230.00	590	....	....	.....	....	122	2	260.00	595
612	12	250.00	610	712	12	260.00	655	....	....	.....	....	123	3	280.00	620
615	15	310.00	760	715	15	320.00	800	....	....	.....	....	12–14	4	190.00	435

These prices include hopper, spout, frame, frame bolts, distributing case, overflow funnel, lever, dial board, cast elbow for overflow spout, and a set of numbered bin cards.

Indicator Stands and Rings for Revolving Spouts

Indicator Ring.
Fig. 45245. (*Alcade*)

Our indicator stands are of a neat and strong design, as shown. The handle is bored to receive the indicator rod, which is held firmly by a set screw. When ordering, please state size of indicator rod.

Indicator Stand.
Fig. 45246. (*Alcahest*)

Price List, Subject to Discount

Indicator Stand, complete, including 10 numbers (Alcaique)....$27.00
Indicator Ring, complete, including 10 numbers (Alcala)..... 15.00

Indicator Rods and Couplings

One-inch pipe should be used for small spouts and ordinary work. For medium size and large spouts we recommend 1¼-inch pipe.

Couplings consist of steel plugs, of proper size to fit inside the pipe, and 8 inches long. The coupling and pipe are drilled for four bolts. Price includes bolts and drilling the indicator rod.

Price List, Subject to Discount

Size of Pipe, Inches	Outside Diameter of Pipe, Inches	Price per Foot	CODE WORD For Pipe	Price Couplings, Each	CODE WORD For Coupling
1	1 5/16	$0.30	Alchemist	$3.90	Lotsmann
1¼	1 5/8	.36	Alchemy	4.10	Lotspel

Wire Rope Indicators

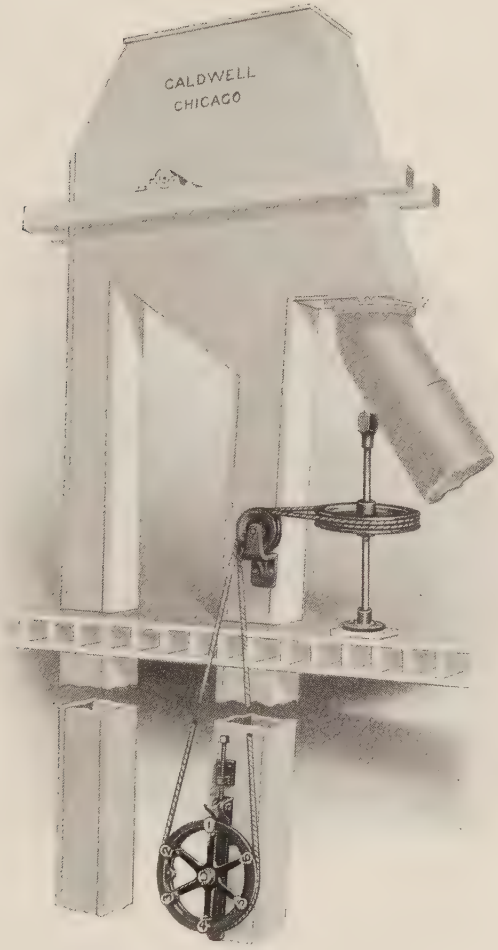


Fig. 45247. (*Alcohol*)

For revolving turn-head spouts it is sometimes preferable to use instead of indicator stands wire rope with wheels, as shown in the accompanying cut.

Price List, Subject to Discount

	Price	CODE WORD
Indicator wheel with six numbers and tightener frame, upper wheel bored for stem of turn-spout, 2 sheaves for turning corner, without rope, stem, or stem bearing	$40.00	Alcove
Flexible galvanized wire rope, $\frac{3}{16}$-inch diameter, extra, per foot, net	.07½	Alcubilla

Hopper Bottoms

With Revolving Heads for Attaching Wooden Spouts

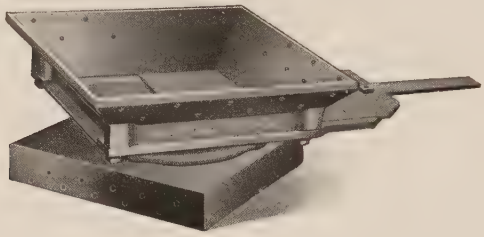


Fig. 45248. (*Algific*)

These hopper bottoms are cast iron, with exception of the slides which are heavy sheet steel.

Price List, Subject to Discount

Size, Inches	Price	CODE WORD	Size, Inches	Price	CODE WORD
10	$40.00	Algor	16	$75.00	Alias
12	45.00	Algorism	18	90.00	Alicantara
14	60.00	Aliaceous	24	150.00	Alicastrum

Bin Bottoms

Fig. 45249. (*Aliboran*)

Price List Includes Slide, But Not the Wooden Spout

Size, Inches	Price	CODE WORD	Size, Inches	Price	CODE WORD
8	$10.00	Alibi	16	$30.00	Aliform
10	15.00	Alidate	18	35.00	Aligerba
12	20.00	Alien	24	60.00	Alimpamos
14	25.00	Alienable	..	.....	.....

Wooden spouts furnished if desired at extra charge.

Four-Way Bin Bottom

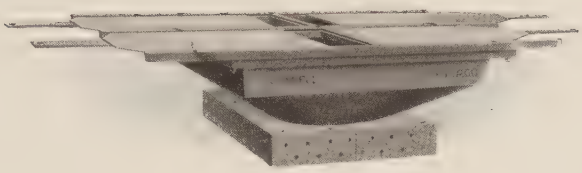


Fig. 45250. (*Alacoque*)

This Bin Bottom is designed for use where a large bin has been subdivided into two or four small bins and all of them are to be connected with one spout. The illustration shows a four-way bin bottom, but it can be arranged for a two-way bin bottom at the same price.

Price List, Subject to Discount

Price includes steel slides with links, and clip plates for attaching wood spouts.

Diameter of Discharge, Inches	Gauge of Metal in Slide	Price	CODE WORD
12	10	$40.00	Agomphe
14	10	60.00	Alacria

Rotary Valve for Scale and Garner Hoppers

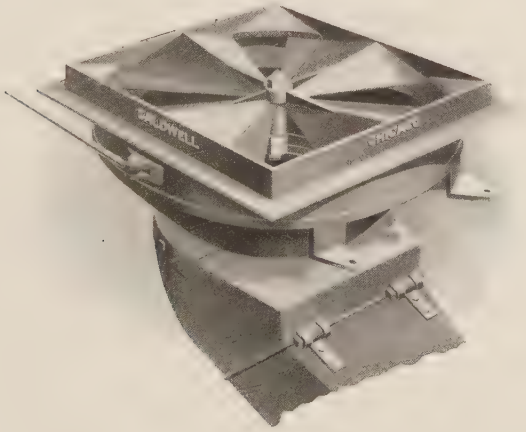


Fig. 45251. (*Akaroa*)

Rotary Valves are used in large grain elevators. We have a number of patterns, covering all of the sizes commonly used, and will be pleased to quote prices upon application.

Telescope Trolley Spout

Fig. 45252. (*Alkahest*)

This spout is a most convenient device for leading the grain from bins into openings in the floor below which are placed at considerable distance from the bin opening, and are so located that a spout of fixed radius will not reach them. It will be seen that the spout is in sections which telescope and permit of lengthening or shortening the spout at will. Prices upon application.

Scale Hopper Bottom

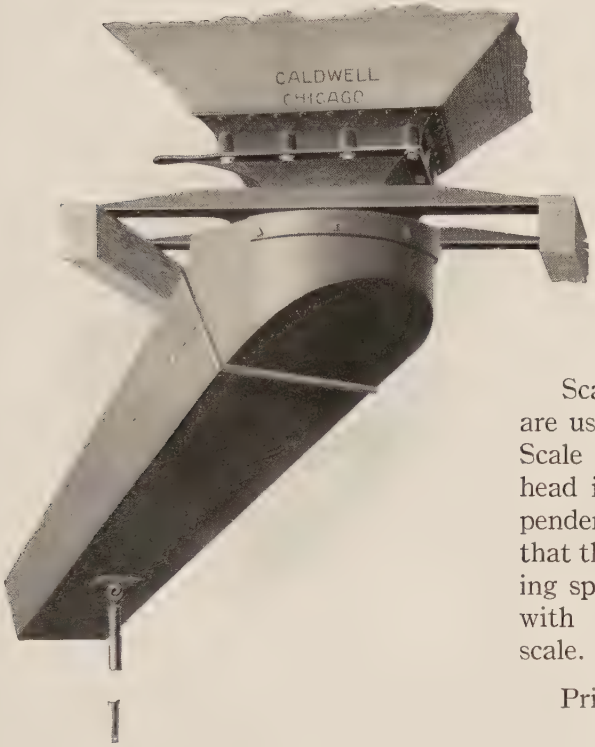


Fig. 45253. (*Adagiando*)

Scale Hopper Bottoms are used as outlets for large Scale Hoppers. The turn head is carried by an independent cast iron frame, so that the turn head or revolving spout does not interfere with the accuracy of the scale.

Prices upon application.

Dock Spouts for Loading Vessels

Fig. 45254. (*Aliture*)

Our dock spouts are of an improved, extra heavy pattern. The swivel or turn-heads are made with either plain or ball bearings, as may be specified. We are also prepared to furnish the heavy steel telescope spouts and the necessary tackle for handling them, making up the complete equipment.

Telescopic Flexible Grain Spouts

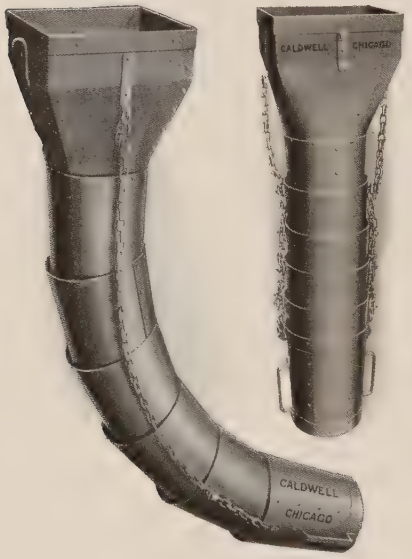


Fig. 45255. (*Alipedis*)

The Telescopic Flexible Grain Spout, with chain connections, is our standard, and will be furnished on all orders unless otherwise specified. Prices are given on next page.

Flexible Grain Spouts, Not Telescoping

Style No. 1
Fig. 45256. (*Alimpiaran*)

Style No. 2
Fig. 45257 (*Aliorsum*)

The spouts shown herewith are not telescopic. Style No. 1 has swivel joint to hopper, and Style No. 2 has chain connection to hopper.

Prices on application.

Telescopic Flexible Grain Spouts

Price List, Subject to Discount

Spout Diameter, Inches	Hopper Size		Length Overall, Feet	Code Word for Size	Price Each and Code Word for Gauge			
	Square, Inches	Round, Inches			No. 18 (Liesch)	No. 16 (Lievre)	No. 14 (Lifeful)	No. 12 (Lieront)
6	8 x 8	7	5	Lidiamos	$18.00	$19.90	$23.10	$28.30
6	8 x 8	7	6	Lidiaron	20.00	22.40	26.00	31.90
6	8 x 8	7	7	Lidieis	24.00	26.70	31.10	38.40
6	8 x 8	7	8	Lidimar	26.50	29.10	34.00	42.00
6	8 x 8	7	9	Lidless	28.50	31.60	36.90	45.80
6	8 x 8	7	10	Lidmaat	30.80	34.00	39.80	49.30
6	8 x 8	7	11	Lidroso	34.60	38.30	44.90	55.80
6	8 x 8	7	12	Lidrotting	36.80	40.80	47.80	59.40
8	10 x 10	9	5	Lidteeken	21.50	24.10	27.60	33.80
8	10 x 10	9	6	Lidwoord	24.00	27.00	31.00	38.10
8	10 x 10	9	7	Liebefromm	28.80	32.30	37.40	46.20
8	10 x 10	9	8	Liebegluth	31.50	35.20	40.80	50.60
8	10 x 10	9	9	Liebekrank	34.00	38.20	44.30	55.00
8	10 x 10	9	10	Liebender	36.60	41.20	47.80	59.50
8	10 x 10	9	11	Liebesband	41.30	46.50	54.10	67.60
8	10 x 10	9	12	Liebesbaum	44.00	49.40	57.60	72.00
10	12 x 12	11	5	Liebesbote	25.50	28.10	32.50	39.90
10	12 x 12	11	6	Liebeselig	28.50	31.60	36.40	44.90
10	12 x 12	11	7	Liebesgier	34.20	38.00	44.10	54.70
10	12 x 12	11	8	Liebesgott	37.30	41.50	48.30	60.00
10	12 x 12	11	9	Liebesheld	40.50	45.00	52.30	65.20
10	12 x 12	11	10	Liebeshof	43.60	48.40	56.40	70.40
10	12 x 12	11	11	Liebeskuss	49.30	54.80	64.00	80.20
10	12 x 12	11	12	Liebeslohm	52.40	58.30	68.20	85.40
12	14 x 14	13	5	Liebeslust	29.00	32.80	36.90	46.10
12	14 x 14	13	6	Liebesmahl	32.50	36.70	41.40	51.70
12	14 x 14	13	7	Liebesmai	39.00	43.90	49.40	63.00
12	14 x 14	13	8	Liebesnetz	42.50	47.80	54.60	68.90
12	14 x 14	13	9	Liebesnoth	46.10	51.80	59.20	74.90
12	14 x 14	13	10	Liebespaar	49.60	55.70	63.80	80.80
12	14 x 14	13	11	Liebespein	56.10	63.00	72.40	92.10
12	14 x 14	13	12	Liebesruf	59.60	66.90	77.00	97.80

Parts for Telescopic Flexible Grain Spouts

Price List, Subject to Discount

Diameter of Spout, Inches	Gauge of Steel	Code Word for Size and Gauge	Std. Square Hopper, Each (Lierrad)	Std. Round Hopper, Each (Lierstuk)	Intermediate Sections, Each (Lidiaba)	End Sections with Handles (Lievito)	Approximate Length Each Section adds to Spout, Inches
6	18	Liebessinn	$ 7.30	$ 7.30	$1.60	$2.50	9¼
6	16	Liebessold	8.30	8.30	1.80	2.70	9¼
6	14	Liebesthat	9.60	9.60	2.20	3.10	9¼
6	12	Liebestod	11.90	11.90	2.90	3.80	9¼
8	18	Liebestrug	8.60	8.60	2.00	3.30	9¼
8	16	Liebeswage	9.80	9.80	2.30	3.60	9¼
8	14	Liebeswahn	11.10	11.10	2.80	4.20	9¼
8	12	Liebesweh	13.80	13.80	3.70	4.80	9¼
10	18	Liebeswerk	10.10	10.10	2.50	4.10	9¼
10	16	Liebeswort	11.20	11.20	2.80	4.50	9¼
10	14	Liebeswuth	12.90	12.90	3.40	5.10	10¾
10	12	Liebeszeit	15.70	15.70	4.50	6.20	10¾
12	18	Liebevoll	11.70	11.70	2.90	4.70	9¼
12	16	Liebhaber	13.70	13.70	3.30	5.10	9¼
12	14	Liebherzen	14.90	14.90	3.90	5.80	10¾
12	12	Liebigie	18.60	18.60	5.20	7.10	10¾

Steel Pipe and Spouting

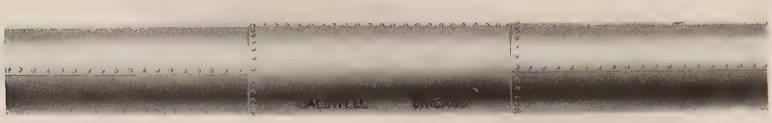


Fig. 45258. (*Amarysse*)
Riveted Pipe with Riveted Seams and Joints

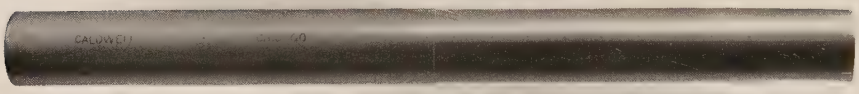


Fig. 45259. (*Lagerstock*)
Pipe with Riveted Seam and Slip Joint

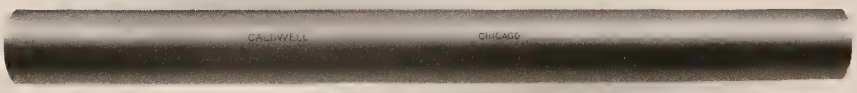


Fig. 45260. (*Ladroneras*)
Pipe with Welded Seam

Fig. 45261. (*Landstadt*)
Pipe with Riveted Seam and Flanged Joints

We can furnish pipe and spouting of any gauge and diameter. Quotations on piping for grain spouts, smoke stacks, etc., upon application.

Bifurcated Car-Loading Spouts

Linings.
Fig. 45262. (*Aliped*)

Fig. 45263. (*Alidorato*)

In down spouts there is a tendency on the part of the grain to flow in a heavier volume on one side of the spout than the other. To properly regulate this so that the flow through both outlets may be uniform, it is necessary to adjust the valves accordingly. When once properly adjusted, however, no further attention is necessary.

When worn out the linings may be renewed.

Price List

Price, with steel linings.....$100.00

Champion Car Loader

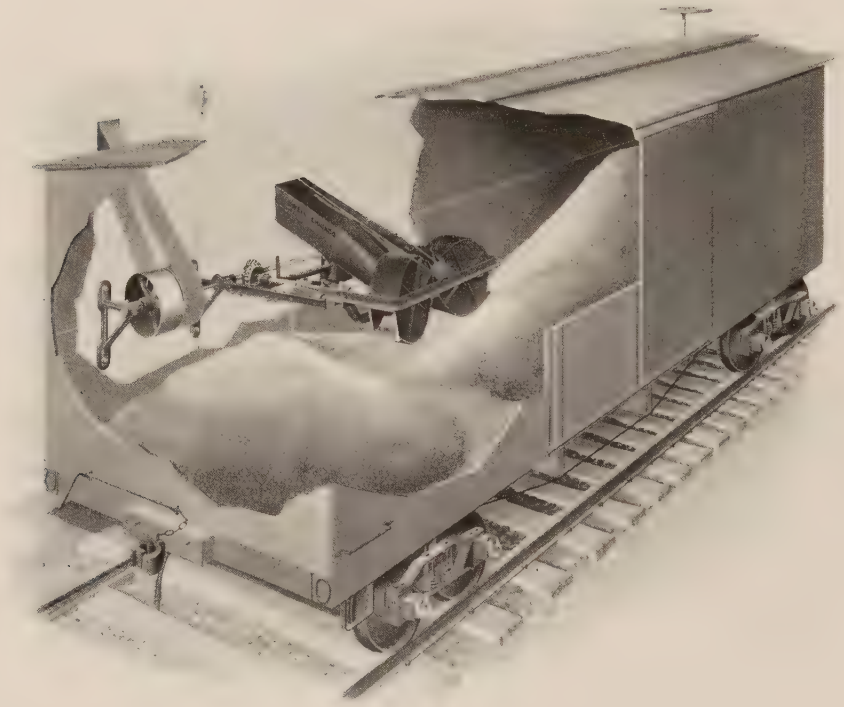


Fig. 45264. (*Ladrones*)

This machine is generally used for handling grain, although it is adapted for loading cars with other material similar to grain. The material is spouted from the bin or hopper scale into the two rotaries or fans which throw the material in opposite directions and fill both ends of the car at the same time. The stream is divided so that an equal amount is handled by each of the rotaries.

The machinery furnished at the regular price is as follows: The rotaries or fans with supporting frame, driving shafts, gears and tight and loose pulleys shown in illustration, and the bracket bearings for the countershaft. The spouting from the building wall to the short steel spout is not included, the length of this not being uniform. Neither do we include the rope and tackle shown in the illustration, nor the driving belt or driving pulley. The size of the driving pulley depends upon the speed of the driving shaft, and the length of the driving belt upon the location of this shaft.

Price List, Subject to Discount

No.	Size of Pulley, Inches	Revolutions per Minute	First Rail to Building	Capacity per Hour, Bushels	Shipping Weight, Pounds	Price	CODE WORD
1	13x5	600	4 ft. 6 in.	3000	365	$180.00	Alignes
2	13x5	600	4 ft. 6 in.	6000	375	210.00	Alignoir
3	13x5	600	4 ft. 6 in.	9000	400	250.00	Alijaba

Sterling Car Loader

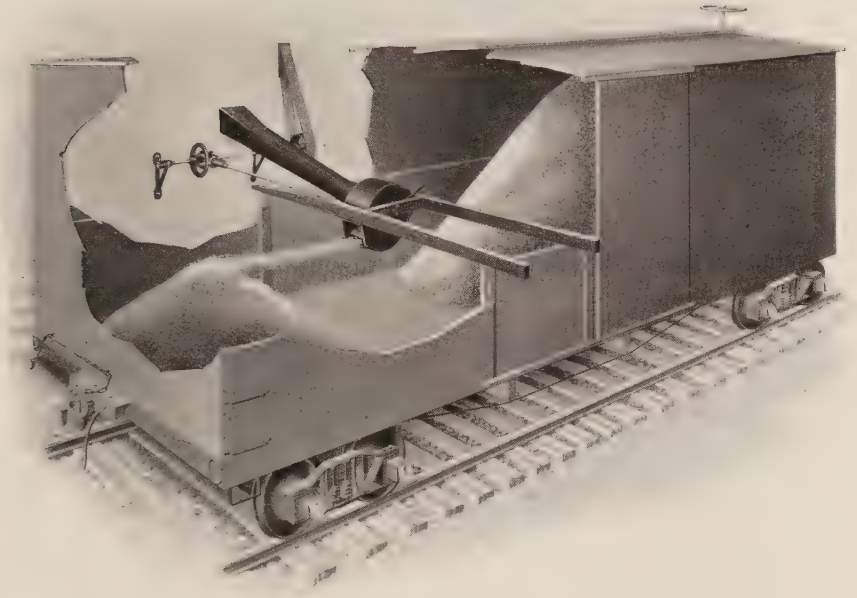


Fig. 45265. (*Ladronesco*)

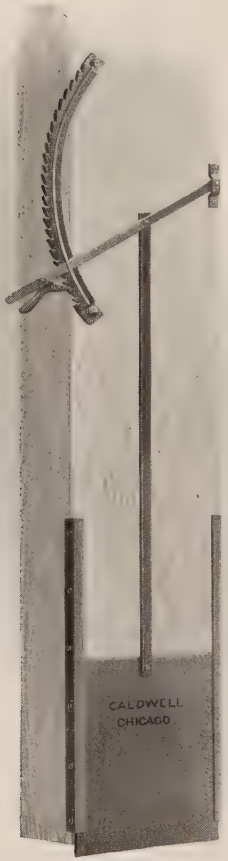
The principle of operation of this machine is the same as that of the Champion Car Loader shown on the opposite page. It is of smaller capacity and has a single fan. The fan is set to load one end of the car first, and then it is so arranged that it can be reversed and the other end of the car filled.

The machinery furnished at the regular price consists of the following: The fan with supports for same; the shafts with gears and driven pulley and the bracket supports for shaft. The spout from the building to the fan is not included, neither do we include the driving belt or driving pulley. The length of belt and the size of the driving pulley depend upon the location and speed of the driving shaft.

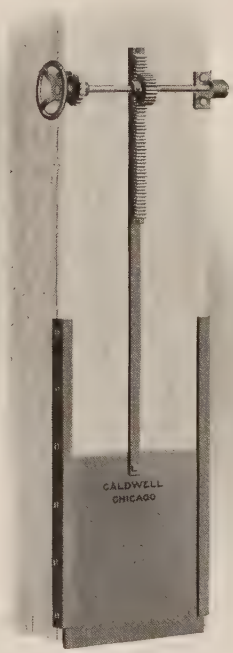
Price List, Subject to Discount

No.	Size of Pulley, Inches	Revolutions per Minute	First Rail to Building, Feet	Capacity per Hour, Bushels	Shipping Weight, Pounds	Price	CODE WORD
1	13x5	200	6	600	50	$ 90.00	Alijan
2	13x5	200	6	1200	70	100.00	Alijarar
3	13x5	300	6	2000	70	110.00	Alijaro

Feed Gates for Elevator Legs



Style No. 1.
Fig. 45266. (*Allegretto*)



Style No. 2.
Fig. 45267. (*Allemand*)

Price List, Subject to Discount

Gates complete with slides, guides, ratchet, and lever (or rack, pinion, and hand-wheel) and 10-foot stem.

Size of Gates, Inches	STYLE No. 1		STYLE No. 2	
	Price	CODE WORD	Price	CODE WORD
10x14	.....	.....	$20.00	Alleviate
16x20	$20.00	Allenzo	22.00	Alliance
20x26	22.00	Allevio	24.00	Allicient
24x30	25.00	Allgott	.....	.....

Other sizes at proportionate prices.

Steel Gates

Fig. 45268. (*Abrimos*)

Sizes given below are standard sizes, but we can furnish any size that may be required. Prices are for the gate with short stem, additional charge being made for extension if necessary.

Price List, Subject to Discount

Size of Gate, Inches	CODE WORD	Standard Gauge	Price	Size of Gate, Inches	CODE WORD	Standard Gauge	Price
8x10	Ajunco	12	$0.95	14x18	Abusames	10	$1.80
8x12	Ajuare	12	1.00	14x20	Abusato	10	1.95
8x14	Ajustado	12	1.10	16x18	Abusava	8	2.05
10x12	Ajustage	12	1.15	16x20	Abusit	8	2.15
10x14	Ajusto	12	1.20	16x24	Abusos	8	2.30
10x16	Ajustoir	12	1.25	18x20	Abusson	8	2.40
12x14	Ajutante	10	1.40	18x24	Abutendi	8	2.70
12x16	Akabela	10	1.50	18x28	Abutilo	1/4"	3.00
12x18	Akacie	10	1.60	20x24	Abution	1/4"	3.15
14x16	Amatam	10	1.70	20x30	Abutre	1/4"	3.25

Cast Iron Guides

Price List, Subject to Discount

Length Inches	CODE WORD	Price, per Pair	Length, Inches	CODE WORD	Price, per Pair
12	Aigron	$0.80	38	Aiming	$2.75
14	Aiguade	.95	40	Aimless	2.90
16	Aiguail	1.10	42	Aimylus	3.05
18	Amatir	1.25	44	Aiphane	3.20
20	Aijah	1.40	46	Aipiri	3.35
22	Aijaleth	1.55	48	Airadas	3.50
24	Akinite	1.70	50	Airain	3.65
26	Ailfers	1.85	52	Airily	3.80
28	Aillade	2.00	54	Ajugam	3.95
30	Ailles	2.15	56	Ajugis	4.10
32	Ailurus	2.30	58	Ajular	4.25
34	Aimait	2.45	60	Ajuncar	4.40
36	Aimaras	2.60	..	.....	.....

Fig. 45269. (*Accouver*)

Fig. 45270. (*Accorta*)

The guides shown above are used with steel gates illustrated at top of page.

Bin Gates

Bin Gate with Spout.
Fig. 45271. (*Alkaline*)

Bin Gates with Spout

The illustration shows improved bin gate and spout combined. Where this spout delivers into belt conveyor the angle is so arranged that no grain is spilled.

The gate and spout are made of heavy plate steel.

Price List, Subject to Discount

	Price	CODE WORD
12x14 inches	$20.00	Alkalizate
14x16 inches	24.00	Alkaloid
16x18 inches	30.00	Alkanet
18x20 inches	40.00	Alkerness
20x22 inches	50.00	Allanite
22x24 inches	60.00	Allatrate

Adjustable Bin Gate

The gate slides in grooves, as shown, and can be set in any position desired, the dog holding it in place wherever set.

Adjustable Bin Gate.
Fig. 45272. (*Allayed*)

Price List, Subject to Discount

	Price	CODE WORD
12x14 inches	$10.00	Allayment
14x16 inches	12.00	Allective
16x18 inches	14.00	Allegation
18x20 inches	16.00	Allegiance
20x22 inches	18.00	Allegoric
22x24 inches	20.00	Allegory

Complicated Spouting

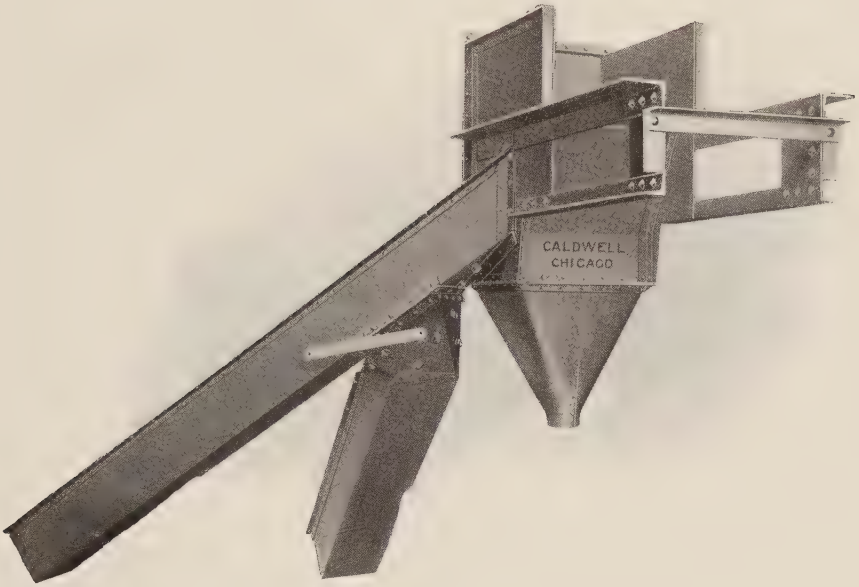


Fig. 45273

Garner Bottoms with Roller Bearing Slides

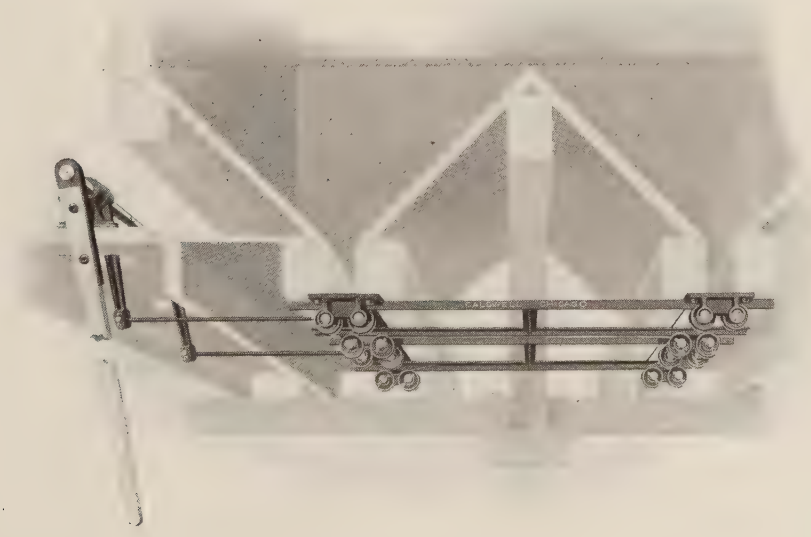


Fig. 45274. (*Larvallius*)

Undercut Gates

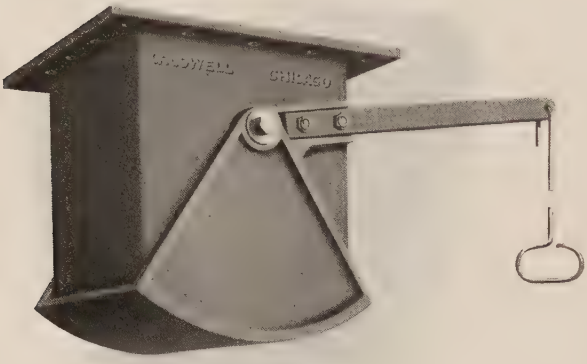
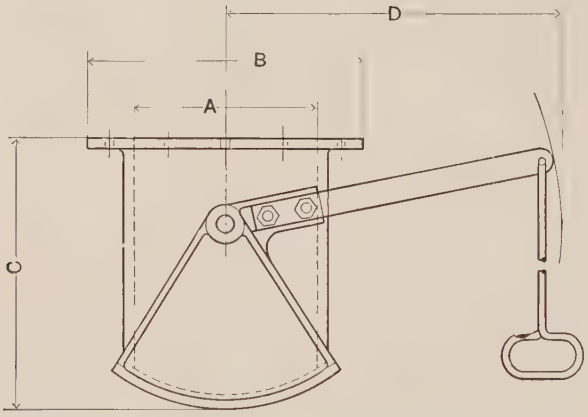


Fig. 45275. (*Lampaceo*)



This type of gate is used with coal, rock and ore bins. The gate is made entirely of cast iron, with steel operating lever.

The dimensions named below cover our standard gates, for which we have patterns. If necessary we can make up special patterns or alter our standard patterns slightly to cover requirements. Prices on special gates on application.

Price List, Subject to Discount

A Inches	B Inches	C Inches	D Inches	CODE WORD	Price
8x 8	14x14	15	19	Lanuginose	$42.00
12x12	18x18	17½	22	Lanuleux	55.00
16x16	22x22	19	26	Limbifere	75.00
16x16 Heavy	26x26	23	36	Lanuviana	100.00

Duplex Gates

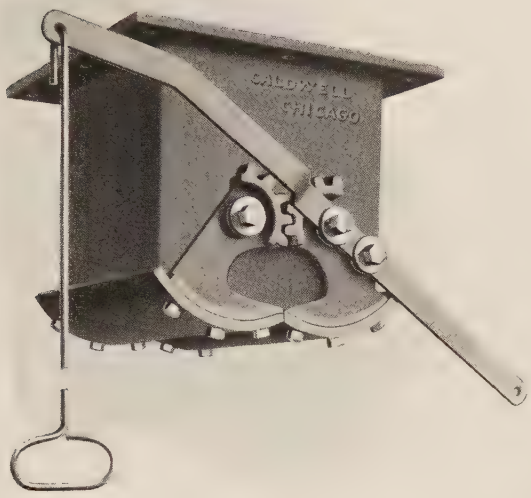
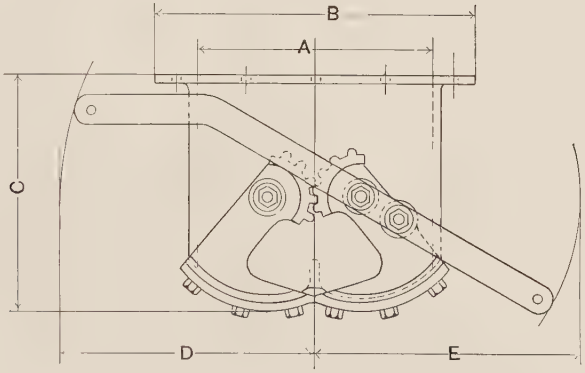


Fig. 45276. (*Lampadario*)



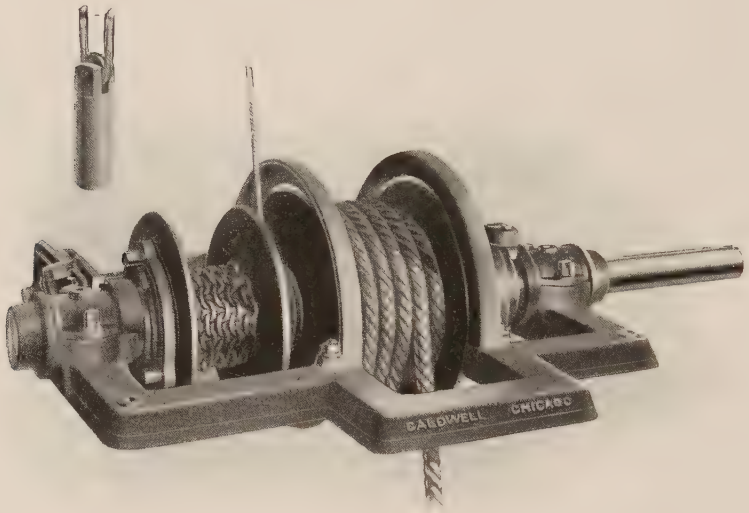
Suitable for coal, rock and ore bins. This gate is more expensive than the Undercut gate. It is made of cast iron, with steel operating lever.

We can furnish special gates if required, and will be pleased to name prices on application. In order to save pattern expense, we recommend the use of our standard sizes named below where possible.

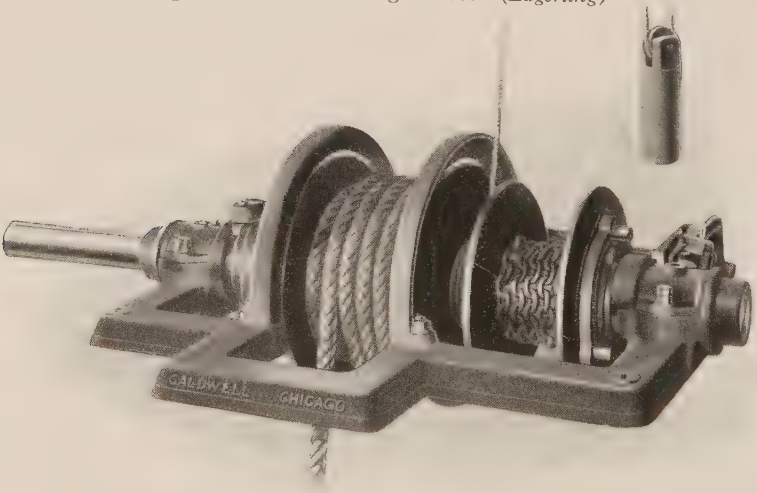
Price List, Subject to Discount

A Inches	B Inches	C Inches	D Inches	E Inches	CODE WORD	Price
12x12	18x18	15	16¼	17¼	Lanuvianos	$ 55.00
16x16	22x22	16	17¼	18¼	Lanuvianum	75.00
20x20	27x27	19½	19	20¾	Limbecking	100.00
24x24	30x30	21	.21½	22½	Limberness	150.00

Caldwell Automatic Power Shovel



Right Hand Shovel. Fig. 45277. (*Lagerung*)



Left Hand Shovel. Fig. 45278. (*Ladruecio*)

Originally designed for the unloading of grain from box cars, the Automatic Power Shovel is now used for a great many other purposes as well. It is standard equipment in a great many retail coal yards for unloading hard coal from box cars. It is used in a number of phosphate plants for the unloading of pebble phosphate. In fact, the Automatic Power Shovel can be used to handle almost any material which can be scooped up, if the proper design of wood or steel scoop is used and the scoop is not made so large as to overload the shovel mechanism.

Caldwell Automatic Power Shovel—Continued

The Caldwell Automatic Power Shovel mechanism is heavier and stronger, and the details of its construction better than the older patterns. The winding drum is larger. Those portions of the mechanism subject to shock or unusual wear are steel. The frame is of "box" cross section, much stiffer and stronger than the ordinary flat casting.

The operation of the shovel is as follows:

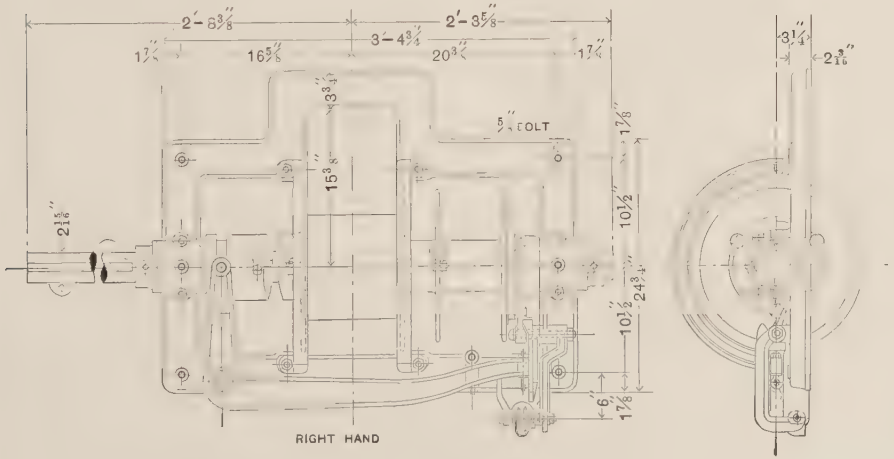
The large rope on the middle drum is led by sheaves to the shovel in the car. The drum being loose on the shaft, the operator draws the scoop back into the car where desired and stops, giving slack to the rope. This allows the small weighted rope to reverse the motion of the drum, tripping a catch and throwing the jaw clutch into mesh. The drum then winds up the rope until the scoop reaches the car door and discharges its load, at which time the chain on the small drum, being wound up, pulls the jaw clutch out of mesh. The operation is then repeated.

The speed of the shovel shaft should be 65 R. P. M. All parts of the mechanism should be kept well lubricated, and the drum should run easily on the shaft.

The Power Shovels are made both Right Hand and Left Hand, although where a single shovel is wanted it is not generally important whether a right or left hand mechanism is used. Right Hand Shovels are always furnished unless otherwise specified. A Double Shovel consists of a right hand and a left hand mechanism operating on one shaft. The price below of a shovel includes the mechanism complete as shown in cut with standard length of shaft, weights, one floor sheave, two car door sheaves and one wooden scoop. The price does not include the driving pulley or ropes, as size of pulley and length of ropes varies with each installation. With a double shovel, the length of shaft is increased and suitable fittings are included. For price list of fittings, repair parts and accessories, see following pages.

Price List, Subject to Discount

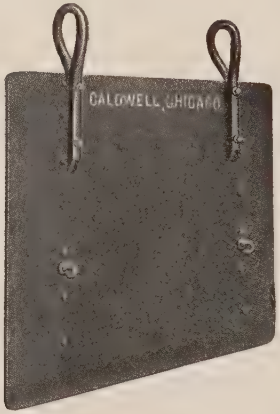
Single Shovel.....$275.00 Double Shovel.....$550.00



Dimensions—Single Power Grain Shovel.

Power Shovel Accessories

Wooden Scoop. Fig. 45279. (*Allopathy*)
Price, each, subject to discount....$20.00



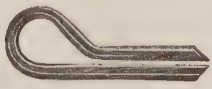
Steel Scoop. Fig. 45280. (*Amabil*)
Price each, subject to discount....$22.00

Scoop for Ear Corn.
Fig. 45282. (*Akalakas*)
Price each, subject to discount....$30.00

Malleable Hooks for Scoops.
Fig. 45281. (*Allubitum*)
Price each, subject to discount.....$0.50

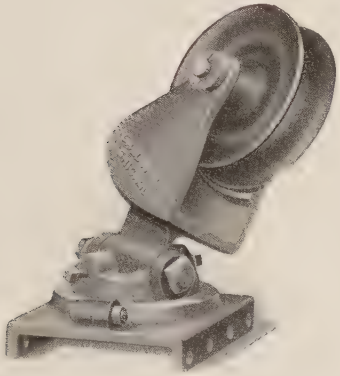
Hickory Handle for Wood Scoop.
Fig. 45283. (*Allonge*)
Price each, subject to discount.....$1.00

Scoop Chains.
Fig. 45284. (*Alludimus*)
Price each, subject to discount.....$3.50



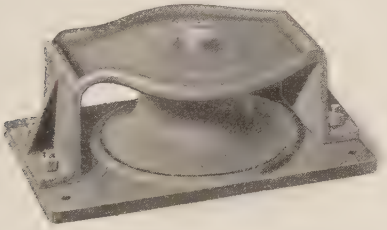
Hickory Handle for Steel Scoop.
Fig. 45285. (*Ladungen*)
Price each, subject to discount.....$1.00

Power Shovel Accessories

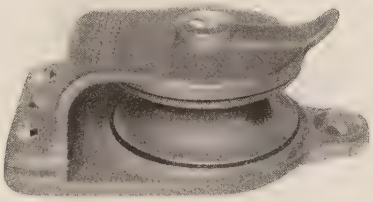


Universal Pedestal Sheave.
Fig. 45286. (*Allophane*)
Price, each, subject to discount....$22.00

Floor Swivel Sheave.
Fig. 45287. (*Alloquy*)
Price, each, subject to discount....$10.00



Car Door Sheave, A.
Fig. 45288. (*Allot*)
Price, each, subject to discount....$12.00



Car Door Sheave, B.
Fig. 45289. (*Allotted*)
Price, each, subject to discount....$12.00

Special Durable Wire Rope

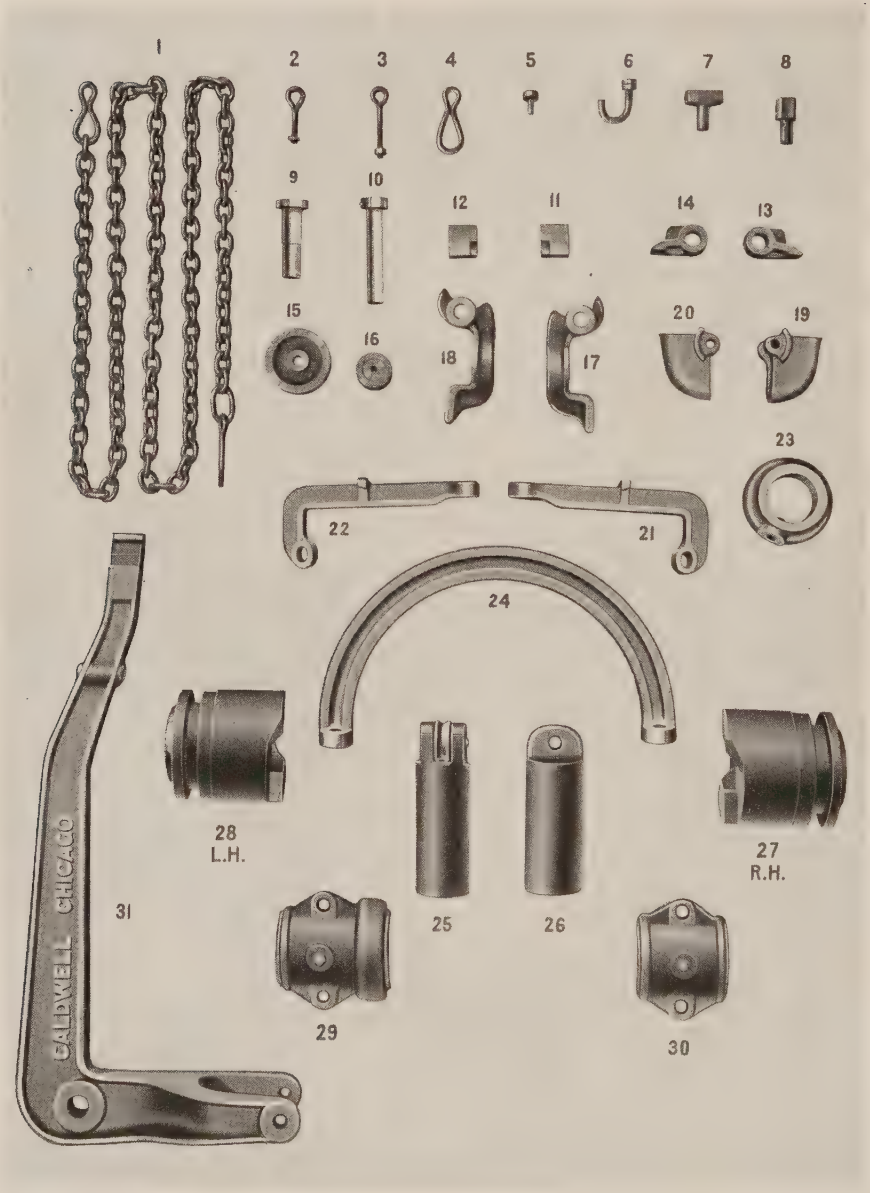
Fig. 45290. (*Ladungsort*)

This rope is made with wire strands, seized with hemp. It is much stronger and more durable than the regular manila power shovel rope.
Price, 5/8 inch diameter, per foot, subject to discount.....$0.70

Manila Power Shovel Rope

Price, per foot, 7/8 inch diameter, subject to discount.....$0.40
(Code word, Allocation.)

Repair Parts for Automatic Power Shovel



In ordering repairs, to avoid errors we recommend customers to *order by numbers only*. See list and prices on following page.

Repair Parts for Automatic Power Shovel

Price List, Subject to Discount

No. of Part	NAME	Material	CODE WORD	Price Each
1	Chain for drum	W. I.	Ladyhood	$ 9.00
2	3/8x2 1/4-inch eye bolt for lever	W. I.	Ladyism	3.40
3	3/8x2 3/4-inch eye bolt for lever	W. I.	Ladykin	3.60
4	Link for end of drum chain	W. I.	Ladylike	4.10
5	Slotted head screw for clutch jaw	Steel	Ladyship	.45
6	J-bolt and nut for drum	W. I.	Laecasin	.90
7	Lever shoe	Steel	Laecheln	2.70
8	Throw-out pin for drum	Steel	Laechelnde	3.70
9	Pivot pin for lever	Steel	Laechelst	4.50
10	1x6 3/8-inch pin and collar for frame	Steel	Laechelein	2.20
11	R. H. steel for jaw	Steel	Laefflein	3.00
12	L. H. steel for jaw	Steel	Laegelchen	3.00
13	R. H. finger	C. S.	Laehmend	3.00
14	L. H. finger	C. S.	Laehmung	3.00
15	Roller for clutch end of frame	C. I.	Laehmst	2.25
16	Roller for weight	C. I.	Laelianus	1.60
17	R. H. latch	C. S.	Laeharum	4.50
18	L. H. latch	C. S.	Laelius	4.50
19	R. H. roller guard	C. S.	Laemmchen	2.70
20	L. H. roller guard	C. S.	Laemmern	2.70
21	R. H. lever guide	C. S.	Laemplein	6.00
22	L. H. lever guide	C. S.	Laenam	6.00
23	Collar for drum shaft	C. I.	Laenarum	3.00
24	Drum guard	C. I.	Laendchen	3.00
25	Weight with slot and roller	C. I.	Laender	4.10
26	Weight with eye	C. I.	Laenge	2.25
27	R. H. clutch	C. I.	Laengenuhr	30.00
28	L. H. clutch	C. I.	Laengst	30.00
29	Cap D for drum end of frame	C. I.	Laengstens	9.00
30	Cap DD for clutch end of frame	C. I.	Laengstich	8.25
31	Clutch lever	C. S.	Laeotomie	25.00
*32	Right hand shovel frame	C. I.	Laeotomus	60.00
*33	Left hand shovel frame	C. I.	Laeppschen	60.00
*34	Drum	C. I.	Laeppisch	100.00

*Not illustrated.

Hanger Type Friction Hoists

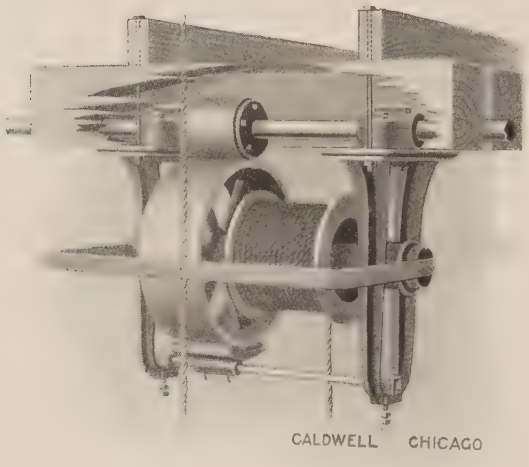


Fig. 45201. (*Allotment*)

These hoists are very simple and are of substantial construction. All parts are amply heavy to carry the rated load. In operating, the hand rope is pulled, which raises the drum shaft until the iron and the paper frictions are in contact. Releasing the hand rope permits the drum shaft to fall, and the iron friction rests on the brake shoe, holding the load stationary.

Price includes the hoist complete as shown, and also a driving pulley of the size shown in price list. The wood frame and ropes are not included.

Price List, Subject to Discount

No. of Hoist	For Load, in Pounds	H. P. Required	Size Drive Pulley, Inches	Speed Drive Pulley, Revolutions	Size Winding Drum, Inches	Estimated Shipping Weight, Pounds	Price	CODE WORD
1	200–500	2½	24x4	99	12x12	1350	$450.00	Almatriche
2	500–1000	4½	30x5	99	12x12	2050	585.00	Almecega
3	1000–1500	6½	36x6	78	15x15	2875	720.00	Almecerias

Horizontal Type Friction Hoists

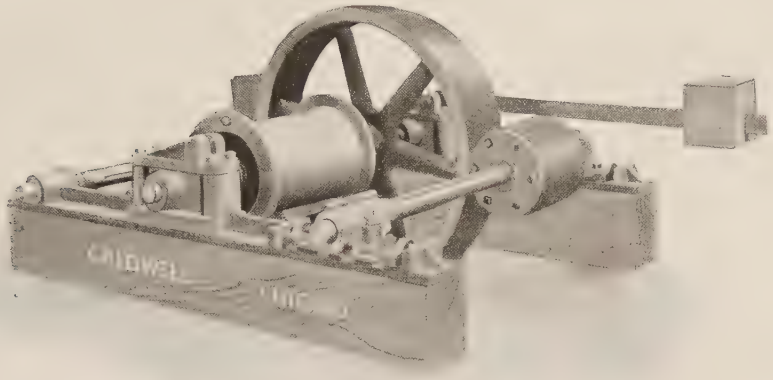


Fig. 45292. Mounted on Wood Frame. (*Allowance*)

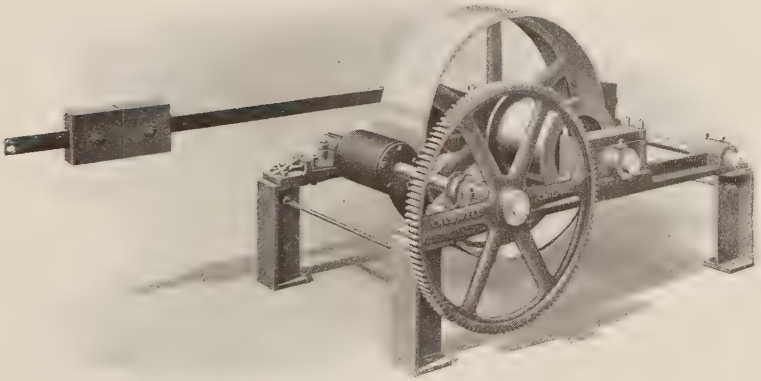


Fig. 45293. With Cast Iron Supports. (*Ligerezas*)

This hoist is somewhat heavier than the hanger type, and can be made for various loads, up to 2,000 pounds lift at 100 feet per minute. For heavier work we recommend the Back Geared type of hoist as shown on the next page.

The operation of the hoist is very simple. Raising the weighted lever moves the iron friction into contact with the paper friction, which revolves continuously. When the load is raised to the proper height, releasing the lever allows the two frictions to separate and the iron friction is forced against the brake shoe, holding the load in place.

Prices will be quoted upon receipt of information as to load to be lifted and speed desired.

Back Geared Friction Hoists

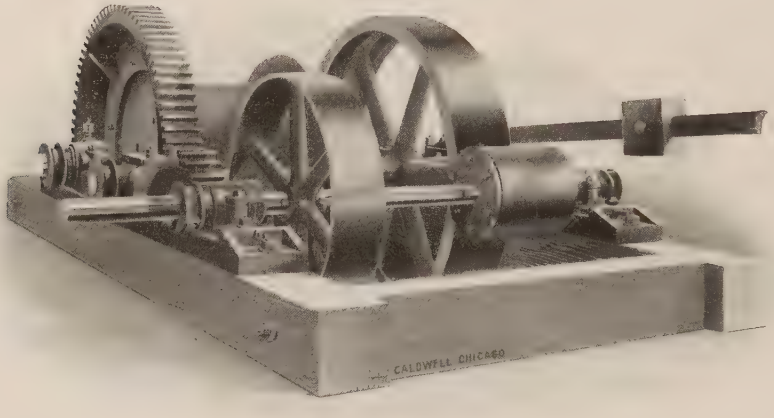


Fig. 45294. (*Drasticos*)

This hoist is similar to the Horizontal Type hoist shown on the preceding page and operates on the same principle. It is equipped with gears, giving greater lifting capacity.

Price on application.

Heavy Duty Hoists

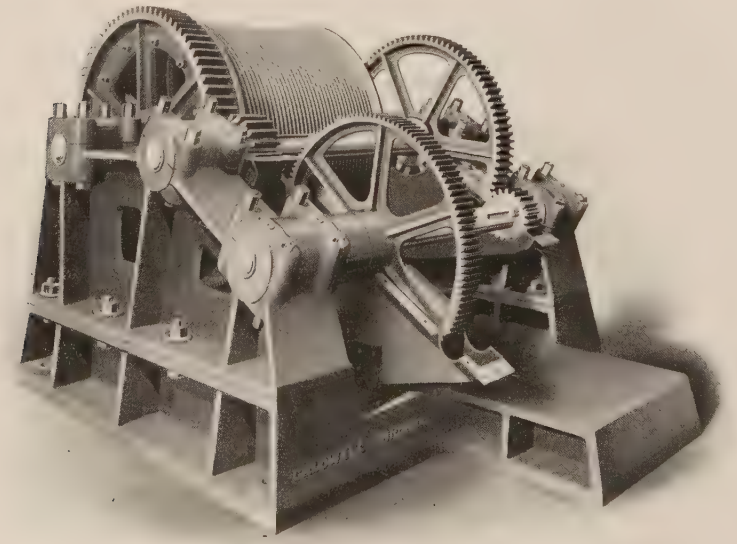
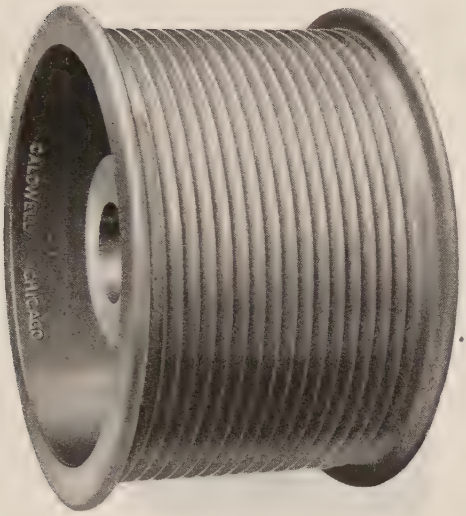


Fig. 45295. (*Laerm*)

We design and make Heavy Duty Hoists of the type shown and of similar construction. The hoist shown in cut is made for direct connection to an electric motor.

Prices will be quoted upon receipt of information as to weight to be lifted, speed required, kind of power available, etc.

Grooved Hoisting Drums



We make hoisting drums of all sizes up to 20 feet diameter, with spiral grooves, machine finished. Prices will be quoted upon receipt of specifications as to size, weight to be lifted, rope to be used, etc.

Fig. 45296. (*Laermes*)

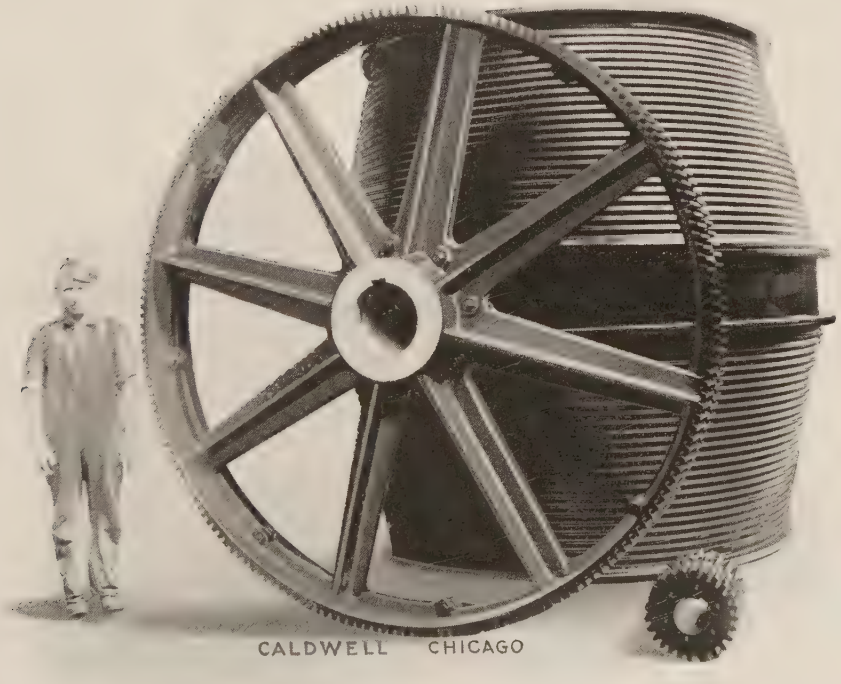


Fig. 45297. (*Liggement*)
Large Conical Hoisting Drum, with Drive Gear and Pinion

Hand Winch

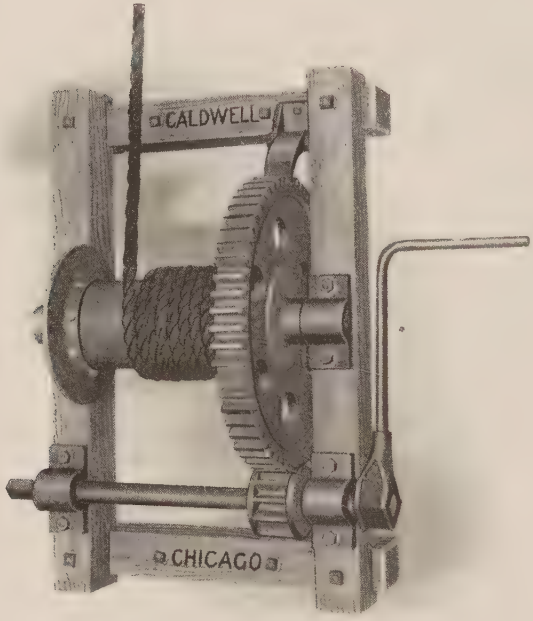


Fig. 45298. (*Laermbild*)

This winch will be found convenient both for construction work and wherever a light duty hoist is needed. The winch is furnished complete as shown, with wood frame.

Price, each, subject to discount.....$125.00

Worm Geared Hand Hoist

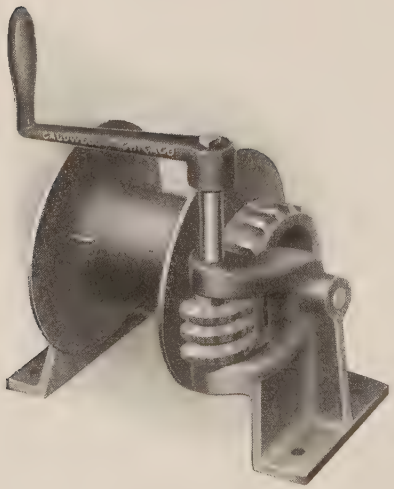


Fig. 45299. (*Laermgasse*)

The Worm Geared Hand Hoist is made entirely of cast iron. Because of the worm gear drive, it is impossible for the load to lower of its own weight, and the hoist is therefore entirely safe.

Price, each, subject to discount.....$45.00

Hand Hoist with Steel Frame

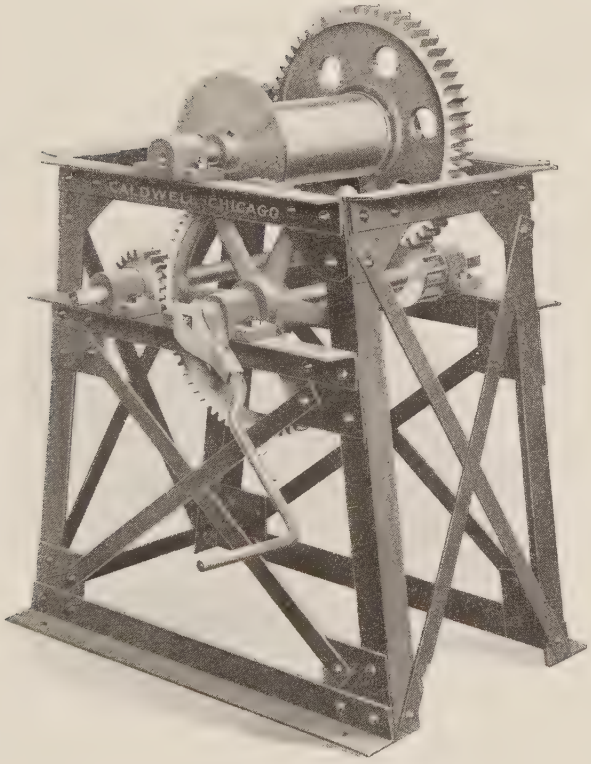


Fig. 45300. (*Limatulos*)

This hoist is arranged for either single or double reduction to the crank. When the load is light and speed is desired, the single reduction can be used. Cranks can be used on both ends.

The drum is of wood. Bearings are babbitted. Frame is of steel, amply heavy.

Price each, subject to discount $250.00

Triple Drum Hoist

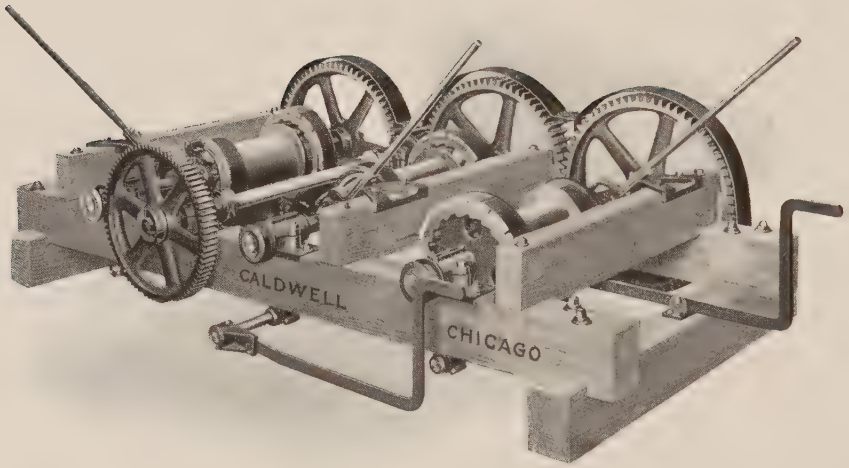


Fig. 45301. (*Limbecked*)

The Triple Drum Hoist shown above is one of a type which can be arranged to suit almost any conditions. Each drum shaft is fitted with an Expansion Clutch and with a band brake, so that the load on any drum can be handled independently. The brake lever is weighted, and must be lifted to release the brake, before the clutch is thrown into engagement. When the brake lever is released, the brake is automatically applied.

The hoist shown above was direct driven from a motor, through the gear shown at the left of the cut. The drive could be made through a pulley, or sprockets and chain, as desired.

Prices will be quoted upon receipt of information as to the load to be lifted, speed desired, number of drums, kind of power available, etc.

Winding Drum with Friction Clutch

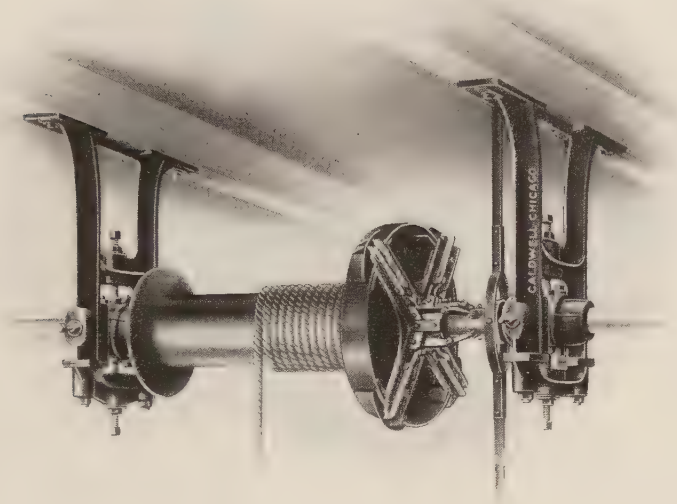


Fig. 45302. (*Allowing*)

This type of hoist is used principally in connection with power scrapers, but can be used to good advantage for light hoisting work of any kind. The hoist consists of a cast iron drum, running loose on a shaft, and having a clutch ring cast on the end. The clutch is our standard type. The hangers shown can be inverted and used as floor stands if desired to rest the hoist on the floor. The shaft is extended a suitable distance for pulley.

Prices will be quoted upon application.

Capstans

Fig. 45303. (*Bakpan*)

Price List, Subject to Discount

Diameter Inches	Length, Inches	CODE WORD	Price
6	12	Lamnidae	$25.00
7	13	Lamothe	28.00
8	15	Langlip	43.00
9	16	Lampabilis	52.00
10	18	Lampacear	70.00
12	20	Langlockig	80.00
12	24	Langmuilen	90.00

These Capstans are made of cast iron, bored and keyseated, and finished smooth on the winding surface.

Caldwell Safety Car Puller

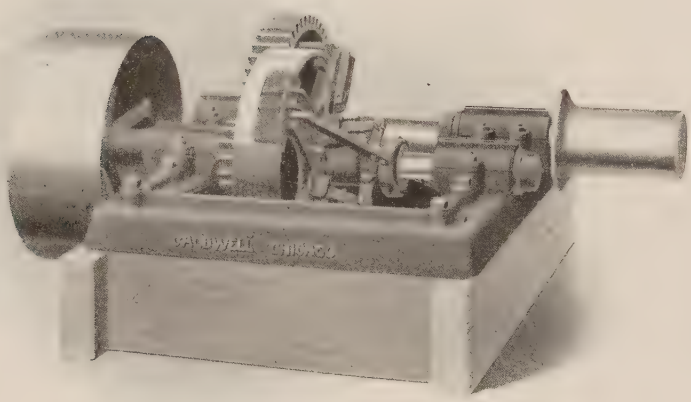


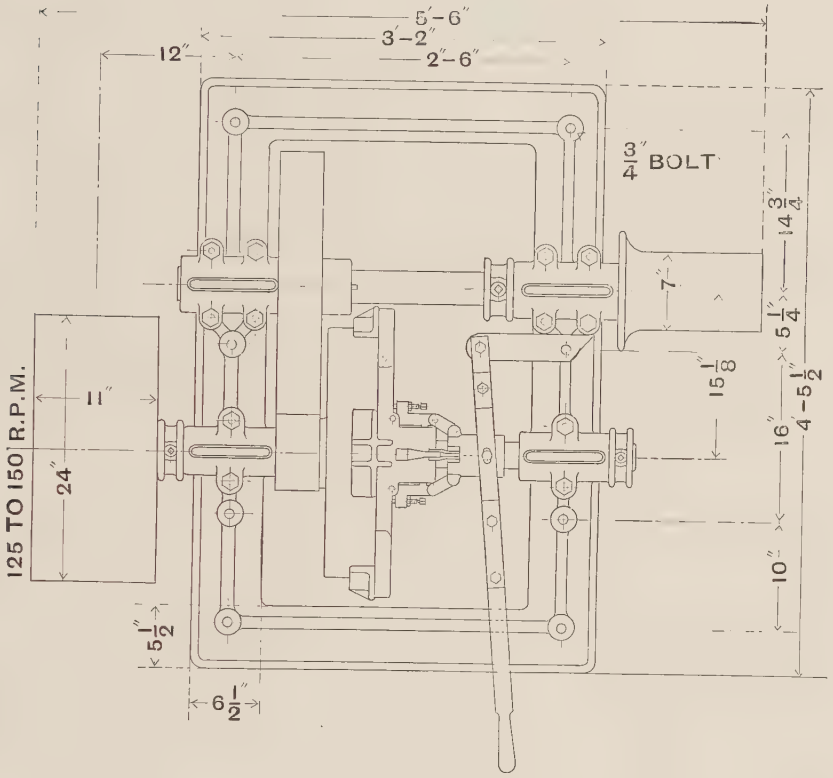
Fig. 45304. (*Allurement*)

The Caldwell Safety Car Puller has been used for many years. The friction clutch on the pinion shaft can be easily thrown in or out under load, so that all danger of accident is avoided. The frame is of cast iron, of box cross section, and is strong and rigid. The gears and shafts are amply heavy and are much stronger than most of the similar machines on the market.

This machine is made in only one size, which is large enough for the requirements of the average mill or industrial plant. The capacity depends almost entirely on the condition of the track and whether it is straight or curved, level or inclined. On straight level track in good condition, the Car Puller should handle three to five loaded cars of average capacity.

Price includes the Car Puller complete with iron frame and 24 x 11-inch pulley as shown in cut, but does not include wood frame. Rope is not included nor the sheaves and hooks, which are listed on page 237. Price, each, subject to discount.....$425.00

Dimensions of Caldwell Safety Car Puller



Spool or Drum for Car Pullers

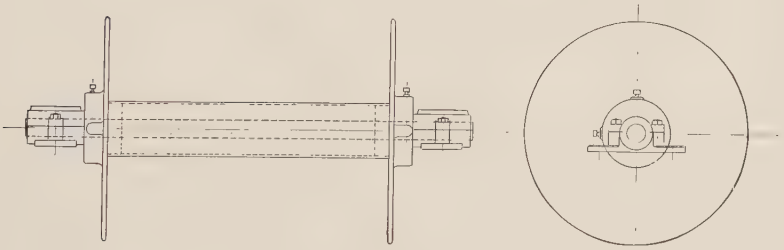


Fig. 45305. (*Landstraat*)

Where the car puller is so placed that there is not room to conveniently take care of the tail rope, winding drums can be furnished and mounted above the car puller. These spools or drums are generally driven by a belt from the capstan shaft of the car puller. They can be made with bearings, as shown, for use with a wood frame, or can be furnished with drop hangers.

Prices quoted on application.

Caldwell Standard Jaw Clutch Car Puller

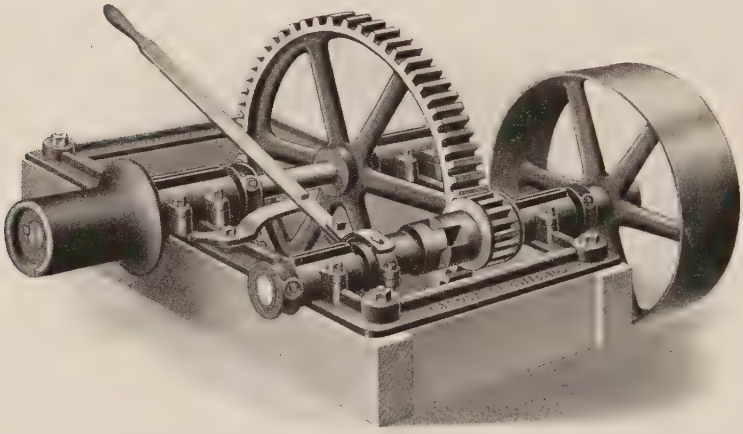
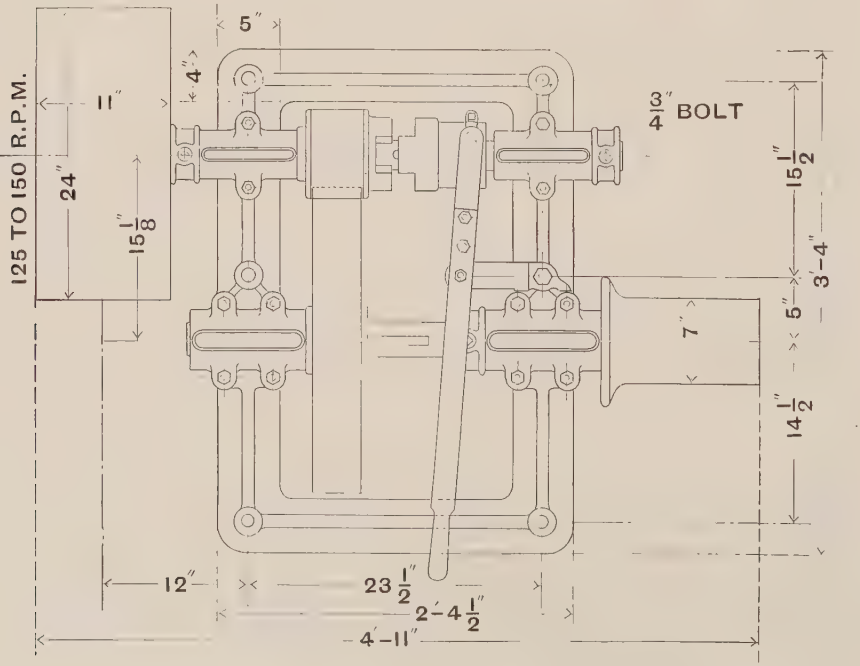


Fig. 45306. (*Landsteuer*)

The Caldwell Jaw Clutch Car Puller is compact and self-contained, being mounted on a cast-iron frame. The bearings are babbitted and self-oiling. The wood frame is not included in the price.

Capacity one to three loaded cars on straight, level track, depending somewhat on the condition of track, and size of cars.

Price, subject to discount $250.00



Car Puller Sheaves on Iron Frame

For Manila Rope

Double Sheave.
Fig. 45307. (*Almendra*)

Single Sheave.
Fig. 45308. (*Almanac*)

The sheaves are very heavy and are placed in the building somewhere near the track, to guide the rope from car puller to the car.

Diameter of sheaves	9¾ inches.
Dimension "A" Double Sheave	38 inches.
Dimension "A" Single Sheave	21½ inches.
Dimension "B"	9 inches.
Price, double sheave	$50.00
Price, single sheave	25.00

Car Puller Sheaves for Wire Rope

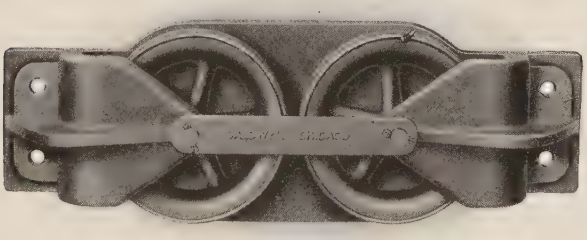


Fig. 45309. (*Almagra*)

The above car puller sheaves are intended for use with car pullers of large capacity where a wire rope is used. They are very heavy and substantial and of the type used in large grain elevators.

Price List, Subject to Discount

	Price	CODE WORD
Double sheaves 12-inch diameter	$ 75.00	Lanuvium
Double sheaves 18-inch diameter	90.00	Limbique
Double sheaves 26-inch diameter	120.00	Lanzaban

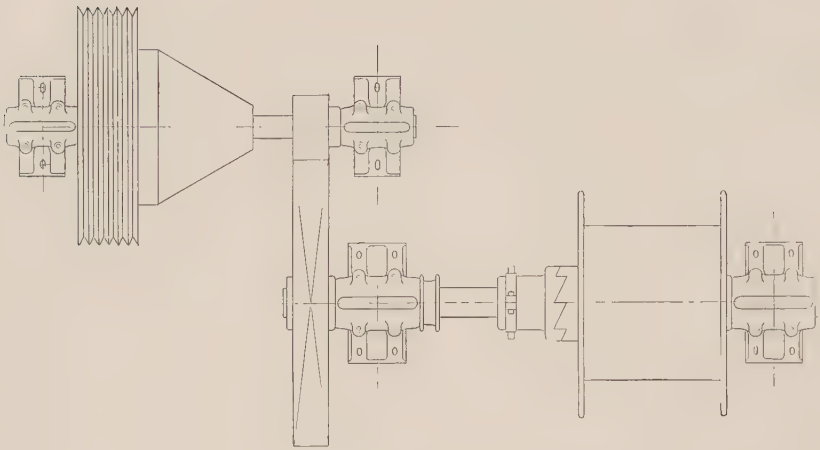
Fig. 45310. (*Akademist*)

Forged Car-Puller Hook

Price List
Subject to Discount

Medium size, 5½ in. x 14 in.....$15.00
Extra Heavy, 8 in. x 16 in..... 21.00

Wire Rope Car Pullers



Single Drum Car Puller.

Fig. 45311. (*Laermplatz*)

For large grain elevators and other large plants where a great number of cars are handled each day, the ordinary car puller is not heavy enough. We are prepared to design and build special heavy car pullers for this work, with drums of proper size for wire rope.

In asking for prices, be sure to specify the maximum number of cars to be hauled, and the character of the track—whether straight or curved, level or inclined.

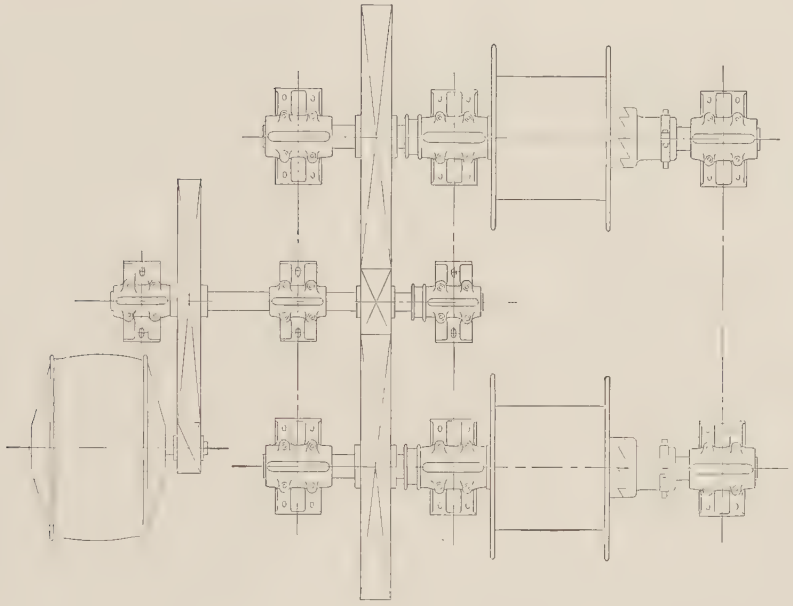
Where the car pullers are to be furnished with electric motors, the voltage of the available power should be given, and whether alternating or direct current. If alternating current, also specify the number of cycles and phases.

Car pullers of this type are generally equipped with spiral jaw clutches on each drum, so that the drums may be operated independently of each other. For additional safety, a friction clutch or a paper and iron friction drive is also provided, so that the car puller can be readily stopped in case the rope becomes caught.

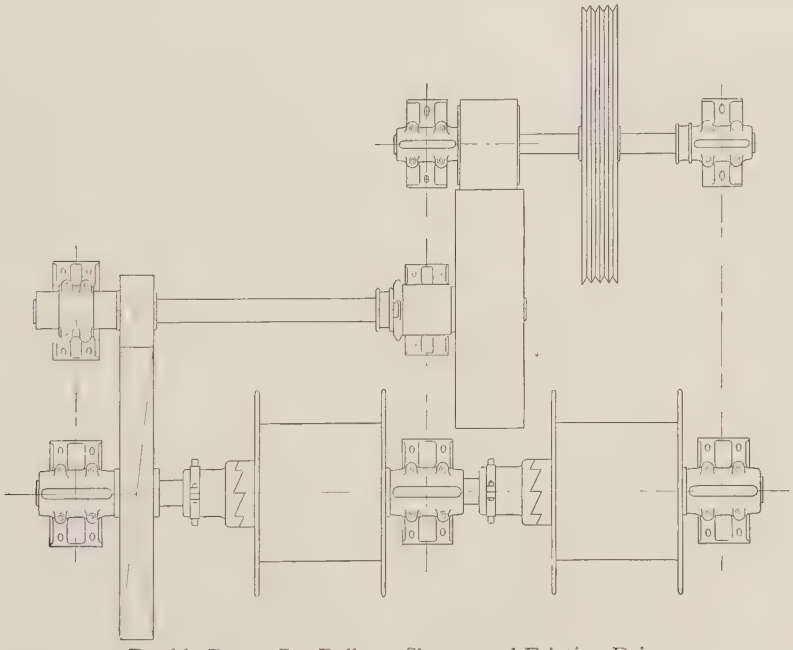
These heavy car pullers are usually mounted on either heavy timber or concrete foundations. If desired we can furnish foundation drawings with the car pullers.

Gear guards can be furnished of sheet iron if desired.

Wire Rope Car Pullers

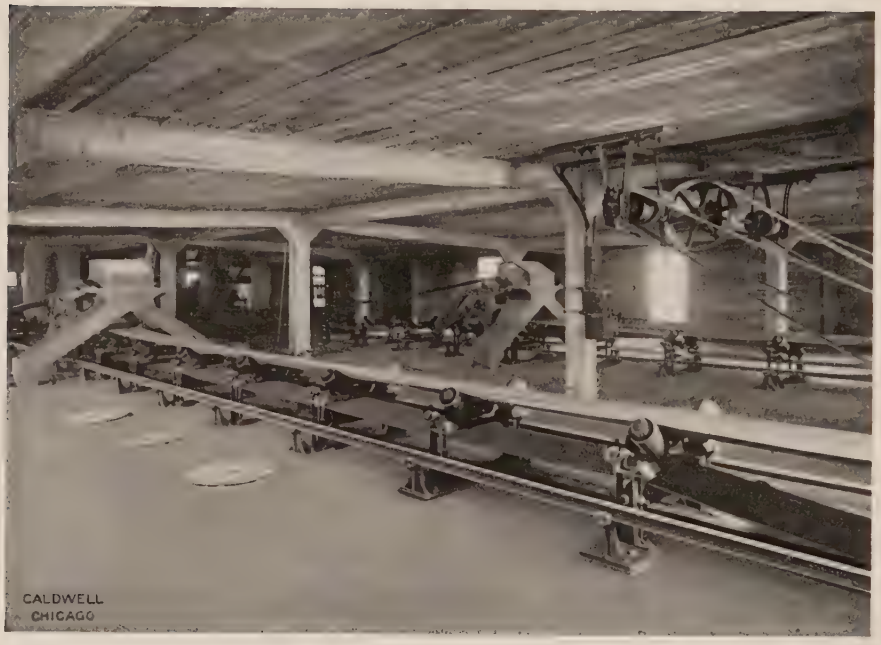


Double Drum Car Puller. Motor and Gear Drive.
Fig. 45312. (*Laertiada*)



Double Drum Car Puller. Sheave and Friction Drive.
Fig. 45313. (*Laertiades*)

Belt Conveyors



Belt Conveyor Installation, showing Tripper, etc.

Belt Conveyors

Belt conveyors are particularly suitable where large capacities are desired and for long conveyors. They can be run at much higher speeds than other types of conveyors, speeds up to six and seven hundred feet per minute being used in grain conveyor work. In carrying stone, coal and heavy materials, such high speeds can not be used, approximately three to four hundred feet per minute being a maximum.

The following parts are required to make up a belt conveyor installation:

HEAD SHAFT, with bearings and set collars.

HEAD PULLEY. This should be of ample size to secure the necessary traction. See table of Minimum Sizes on the next page. Where the conveyor is very long, the head pulley is generally rubber covered, or a snub pulley is used to secure a greater wrap around the head pulley.

COUNTERSHAFT, with bearings and set collars, and gearing to head shaft. If the drive is from a motor, it is often necessary to have a second countershaft in order to secure the proper speed reduction from the motor.

TAIL SHAFT, with take-up bearings and set collars. The take-up bearings should have ample travel, at least one foot travel for each one hundred feet of conveyor.

TAIL PULLEY. This may be smaller in size than the head pulley, but should not be so small as to bend the belt too sharply, particularly with six and eight ply belts.

CONCENTRATORS. See pages 246 to 259.

RETURN ROLLS. See pages 260 to 264.

TRIPPERS. See pages 275 to 279.

LOADING HOPPERS OR SPOUTS. See page 267.

CONVEYOR BELT. See page 270.

We will be glad to lay out Belt Conveyors to suit particular conditions, and to name prices on the complete equipment. Inquiries should specify:

(1) The material to be carried, and size of lumps.
(2) Capacity, and whether the feed is constant.
(3) Length of conveyor.
(4) Whether conveyor is to be level or inclined.
(5) Where is conveyor to discharge?
(6) What kind of power is available? If electric give voltage and whether alternating or direct current and number of phases and cycles if alternating.

If to be driven from line shaft, give speed and size of shaft.

The tables on pages 244 and 245 will be found useful in laying out belt conveyors.

Typical Installations of Belt Conveyors

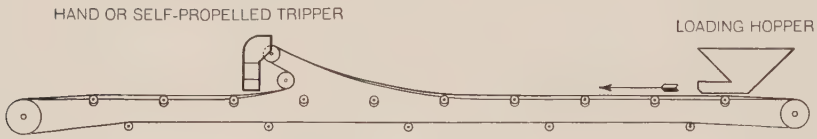


Fig. 45314. (*Limigeni*)
Level Conveyor, with Loading Hopper and Tripper.

Where discharge is at head end only, no tripper is necessary.

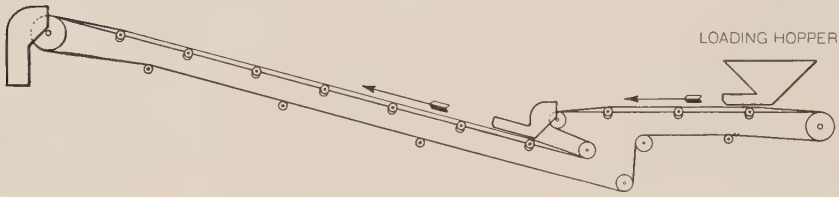


Fig. 45315. (*Limigenos*)
Level Conveyor, with Abrupt Change to Inclined Conveyor.

Where the space available for making the change from level to incline is limited, the conveyor must be arranged with stationary tripper as shown above. The incline of the conveyor should be less than 20° except in a few special cases, as with greater inclination the material will tend to slide back on the belt.

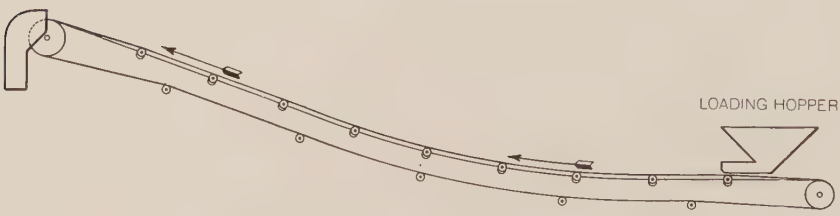


Fig. 45316. (*Limigenum*)
Inclined Conveyor, with Gradual Change from Horizontal to Inclined.

This construction is preferred with long conveyors, where sufficient space is available for the gradual curve. The radius of the curve should be from 200 feet to 400 feet, depending on the weight of the material carried. A shorter radius will not allow the belt to rest on the concentrators.

Typical Installations of Belt Conveyors

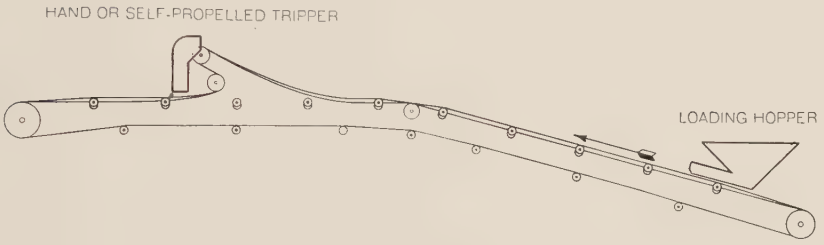


Fig. 45317. (*Liminibus*)
Inclined Conveyor, Changing to Level.

Used for carrying material over bins, etc.

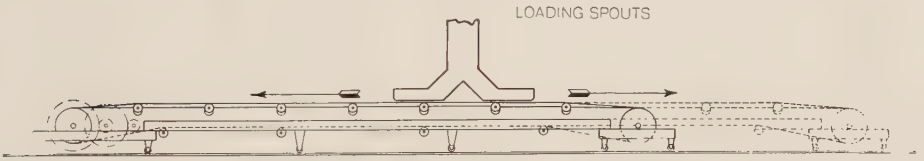
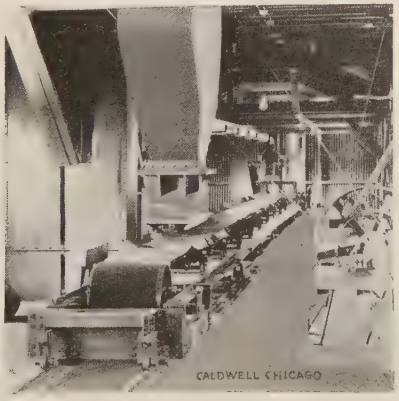


Fig. 45318. (*Limitable*)
Shuttle Conveyor.

A Shuttle Conveyor is generally used for distributing material over bins. It receives the material from a spout or from the main belt conveyor, and is so arranged as to discharge at either end, and, being movable on a steel or wood frame, can discharge at practically any point desired.



Belt Conveyors

The table below will be found useful in designing belt conveyors. The following points should always be borne in mind.

The diameters of head or driving pulleys given in the table are minimum diameters, and long conveyors should have head pulleys with greater diameters in order to secure the necessary traction, and in some cases the head pulley should be rubber-covered.

Where the material to be carried contains large lumps, these lumps should be taken into account in accordance with column three.

The capacities given are maximum capacities, and the belt speeds are maximum belt speeds under ordinary conditions. However, it is the usual practice in grain elevators to exceed these maximum speeds as much as fifty per cent with long conveyors under favorable conditions.

Width of Belt, Inches	Minimum Diam. of Driving Pulley	Maximum Size of Lumps, Inches	CAPACITY PER HOUR AT 100 FT. PER MINUTE		Maximum Advisable Belt Speed	*Spacing of Concentrators, Feet	Minimum Plies of Belt	Maximum Plies of Belt
			Cubic Feet	Bushels				
12	16–18	2	460	368	300	4½–5	3	4
14	16–18	2½	630	505	300	4½–5	3	4
16	20–24	3	820	655	300	4½–5	4	5
18	20–24	4	1040	832	350	4 –4½	4	5
20	20–24	5	1280	1025	350	4 –4½	4	6
22	22–28	6	1550	1240	400	4 –4½	5	6
24	24–30	8	1850	1480	400	3½–4	5	7
26	26–32	9	2180	1745	450	3½–4	5	7
28	28–34	12	2500	2000	450	3½–4	5	8
30	30–36	14	2900	2320	450	3½–4	6	8
32	32–38	15	3300	2640	500	3½–4	6	9
34	34–40	16	3700	2960	500	3½–4	6	9
36	36–42	18	4200	3360	500	3½–4	6	10
38	38–44	19	4600	3680	550	3 –3½	6	10
42	42–48	20	5600	4480	550	3 –3½	6	10
44	44–50	22	6200	4960	600	3 –3½	6	10
48	48–60	24	7400	5920	600	3 –3½	8	10

*Idlers are usually spaced twice as far apart as the concentrators.

Horse-power Required by Belt Conveyors

The following formula will give approximately the horse-power required to drive belt conveyors.

$$\text{H. P.} = \frac{C \times T \times L}{1000} + \frac{T \times H}{1000}$$

Where C = Power constant from table below.
T = Load in tons per hour.
L = Length of conveyor between centers, in feet.
H = Vertical height in feet that material is to be lifted.

Add for each movable or fixed tripper the horse-power in column 4.
Add 50% to horse-power for each conveyor under 50 ft. in length.
Add 25% to horse-power for each conveyor between 50 ft. and 100 ft. in length.

Width of Belt, Inches	"C" For material weighing 25 lbs. to 75 lbs. per cu. ft.	"C" For material weighing 75 lbs. to 125 lbs. per cu. ft.	H. P. for each movable or fixed tripper
12	.235	.15	½
14	.230	.15	½
16	.220	.14	¾
18	.21	.14	1
20	.21	.14	1¼
22	.2	.13	1½
24	.2	.13	1¾
26	.19	.13	2
28	.18	.12	2¼
30	.17	.12	2½
32	.17	.12	2¾
34	.16	.12	3
36	.16	.12	3¼

In figuring the horse-power of belt conveyors always figure the maximum capacity of conveyor at the speed selected.

Thickness of Belt

The stress in the belt may be determined, after the horse-power has been figured, by the following formula:

$$X = \frac{\text{h. p.} \times 33{,}000}{S \times B}$$

Where X = Stress in belt, in pounds per inch of width.
S = Belt speed in feet per minute.
B = Width of belt in inches.

The stress per inch of width for one ply should never exceed 20 pounds. Dividing the value X obtained above by 20 will give the number of plies necessary for strength.

Because of the necessity of obtaining stiffness in the belt between the concentrators, the minimum number of plies for a given width of belt, as given in the table on page 244, should be always used. Similarly, because a belt which is too stiff will not trough properly, the maximum number of plies given in the same table should not be exceeded.

Caldwell Uniform Belt Concentrators

Fig. 45319. (*Lanturelu*)
Four Pulley Type, Style "F"

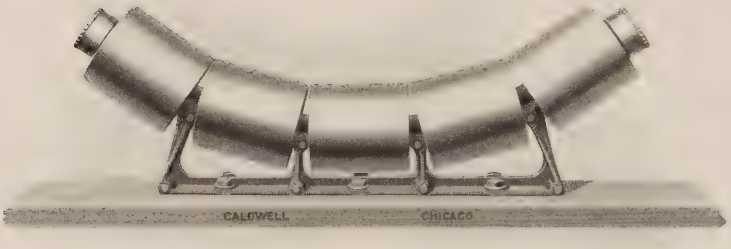


Fig. 45320. (*Lanudas*)
Five Pulley Type, Style "H"

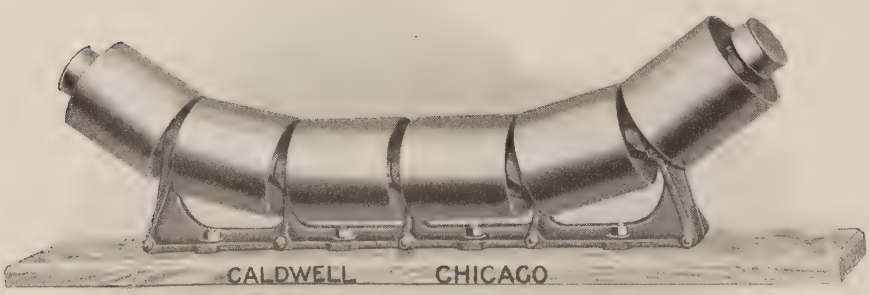


Fig. 45321. (*Liesbuilen*)
Six Pulley Type, Style "H"

Caldwell Uniform Belt Concentrators

The "Uniform" Belt Concentrator, with the pulleys all in one vertical plane, and arranged approximately on the arc of a circle, has proven the most satisfactory for general use. The gradual troughing effect permits the use of stiffer and heavier belts, at the same time obtaining perfect troughing. There are no sharp angles through which the belt must be bent. The capacity obtained is greater than with any other type of concentrator.

The Caldwell Uniform Belt Concentrator is made with a two-piece cast iron frame, split across the belt, and bolted securely together. This makes a very rigid frame and one which keeps the pulleys in accurate alignment. The shafts are bent hollow tubes, drilled to permit lubrication of the pulleys. Only two grease cups are used, and these are conveniently located at the end of the shaft, where they will be next to the walkway along the conveyor, and easily tightened up when necessary. The grease cups and shafts are large, so that proper lubrication, even in cold weather, is assured. We fill the shafts and cups with grease before shipment.

The plain bearing, with grease lubrication, is, in our opinion, the best for belt concentrators, and has been adopted as our standard. The grease tends to keep dirt and grit out of the bearings, which is particularly important in gravel and stone conveyors. The bearing is simple, and has no small parts to break or wear. Under the severe conditions under which a belt conveyor usually has to operate, this type of bearing will cause less trouble and give greater satisfaction than any other.

Price lists of concentrators are given on the following pages. Description and price lists of various styles of return rolls will be found on pages 260 to 264.

Caldwell Uniform Concentrator on Cast Iron Stand

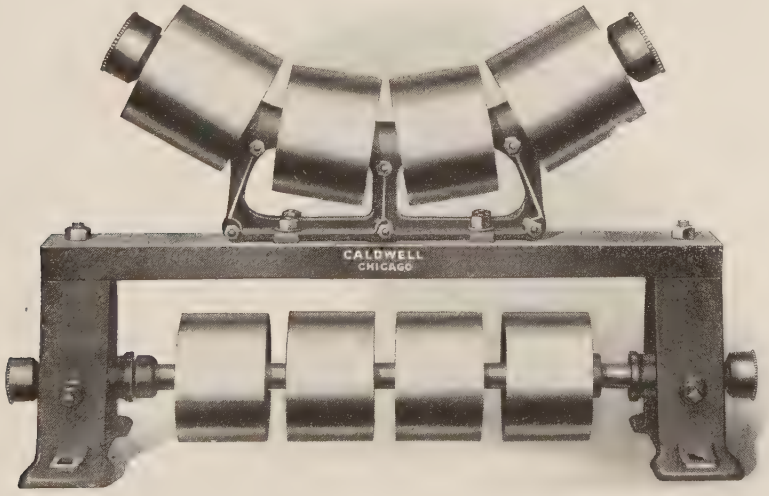


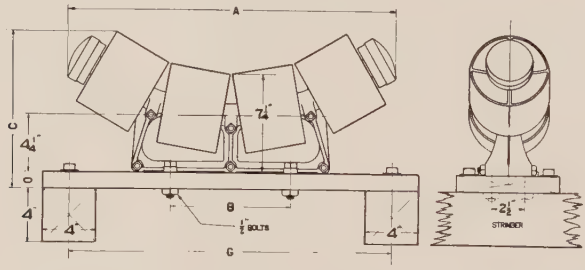
Fig. 45322. Style G. (*Lijmpannem*)

While slightly more expensive, this type of concentrator is used extensively where the conveyor is built on a floor or is mounted on a steel framework. The Concentrators are made either with or without the return rolls. Ordinarily only every other concentrator requires a return roll.

Prices are given on the following pages.

Caldwell Uniform Belt Concentrators

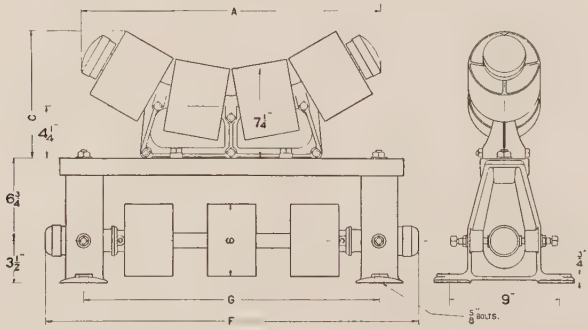
Style F, Four Pulleys, Mounted on Plank



Price List, Subject to Discount, and Dimensions, Inches

Width of Belt, Inches	Price Each	CODE WORD	A	B	C	G	O
16	$ 9.50	Ligurritor	24¼	9	11½	24	1¼
18	9.75	Ligusters	26	9	12	28	1¼
20	10.50	Ligusticis	28	10	12½	28	1½
22	11.25	Ligusticum	29¾	10	13	32	1½
24	12.00	Ligustrino	31½	14	13¼	32	1½
26	13.50	Ligustro	33¼	14	13¾	36	1½

Style G, Four Pulleys, Mounted on Cast Iron Stand



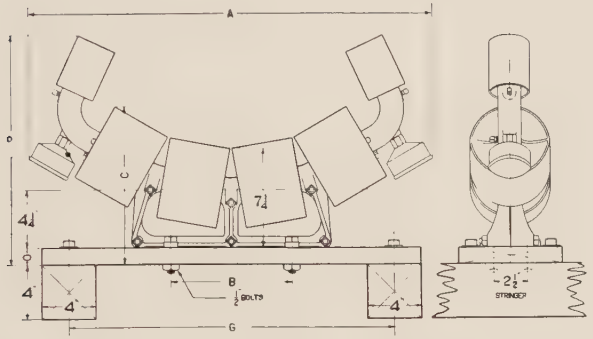
Price List, Subject to Discount, and Dimensions, Inches

Width of Belt, Inches	PRICE EACH		CODE WORD (See Note)	A	C	F	G
	With Return Roll	Without Return Roll					
16	$19.60	$14.25	Liskoffer	24¼	10¼	32¼	24
18	20.85	14.50	Liskplicht	26	10¾	36¼	28
20	22.10	15.75	Liskreden	28	11	36¼	28
22	23.50	16.40	Lisksoogen	29¾	11½	40¼	32
24	24.50	17.25	Liskstapel	31½	11¾	40¼	32
26	25.50	18.00	Liskstoet	33¼	12¼	44¼	36

If Return Rolls are wanted with the concentrators, use the code word given in list above, and add code word Lijmpot.

Caldwell Uniform Belt Concentrators

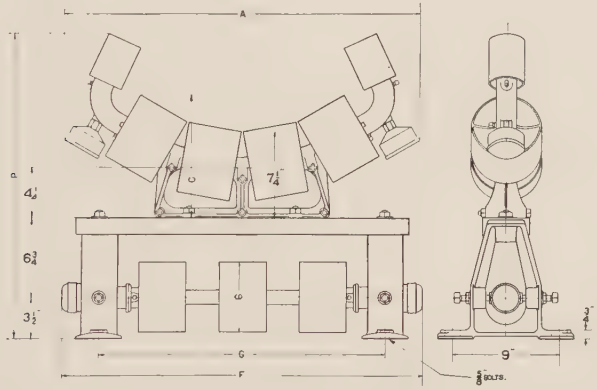
Style FC, Four Pulleys, Mounted on Plank, With Side Guide Pulleys



Price List, Subject to Discount, and Dimensions, Inches

Width of Belt, Inches	Price Each	CODE WORD	A	B	C	G	M	O	P
16	$15.50	Lisktoorts	29½	9	11½	24	8½	1¼	16¾
18	15.75	Lisktros	31½	9	12	28	8½	1¼	17½
20	16.50	Liskwagen	33½	10	12½	28	8¾	1½	17⅞
22	17.25	Liskzang	35	10	13	32	8¾	1½	18¼
24	18.00	Lismachtig	37	14	13¼	32	8¾	1½	18½
26	19.50	Lismbak	39	14	13¾	36	8¾	1½	19

Style GC, Four Pulleys, Mounted on Cast Iron Stand, With Side Guide Pulleys



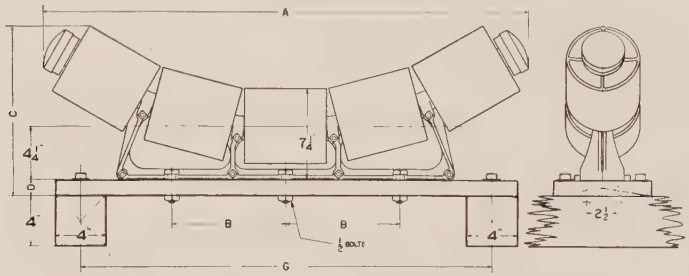
Price List, Subject to Discount, and Dimensions, Inches

Width of Belt, Inches	PRICE EACH		CODE WORD (See Note)	A	C	F	G	P
	With Return Roll	Without Return Roll						
16	$25.60	$20.25	Lismende	29½	10¼	32¼	24	25¾
18	26.85	20.50	Lismigheid	31½	10¾	36¼	28	26½
20	28.10	21.75	Lismkamer	33½	11	36¼	28	26⅝
22	29.50	22.40	Lismketels	35	11½	40¼	32	27
24	30.50	23.25	Lismkokers	37	11¾	40¼	32	27¼
26	31.50	24.00	Lismkwast	39	12¼	44¼	36	27¾

If Return Rolls are wanted with the concentrators, use the code word given in the list above, and add the code word Lijmpot.

Caldwell Uniform Belt Concentrators

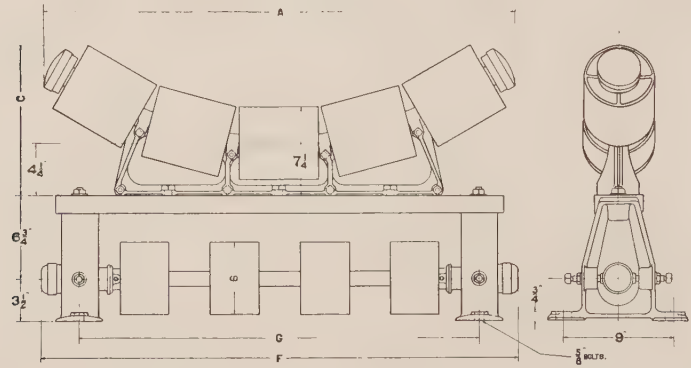
Style H, Five and Six Pulleys, Mounted on Plank



Price List, Subject to Discount, and Dimensions, Inches

Width of Belt, Inches	Price Each	Number of Pulleys	CODE WORD	A	B	C	G	O
28	$14.25	5	Liguait	36½	9	13½	36	1¾
30	14.90	5	Liguames	38	9	14	40	1¾
32	16.00	6	Ligueira	41½	9	13	40	1¾
34	17.00	6	Liguerait	43	9	13½	46	1¾
36	18.00	6	Ligueront	44¼	9	14	46	1¾

Style J, Five and Six Pulleys, with Cast Iron Supports



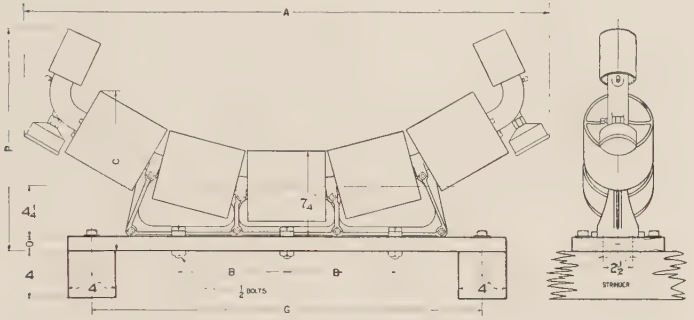
Price List, Subject to Discount, and Dimensions, Inches

Width of Belt, Inches	PRICE EACH		Number of Pulleys	CODE WORD (See Note)	A	C	F	G
	With Return Rolls	Without Return Rolls						
28	$26.50	$19.00	5	Ligueur	36½	11¾	44¼	36
30	28.00	19.70	5	Liguilla	38	12¼	48¼	40
32	29.50	21.00	6	Ligula	41½	11¼	48¼	40
34	31.25	22.00	6	Ligulaire	43	11¾	54¼	46
36	33.00	23.00	6	Ligularum	44¼	12¼	54¼	46

If Return Rolls are wanted with the concentrators, use the code word given in list above, and add the code word Lijmpot.

Caldwell Uniform Belt Concentrators

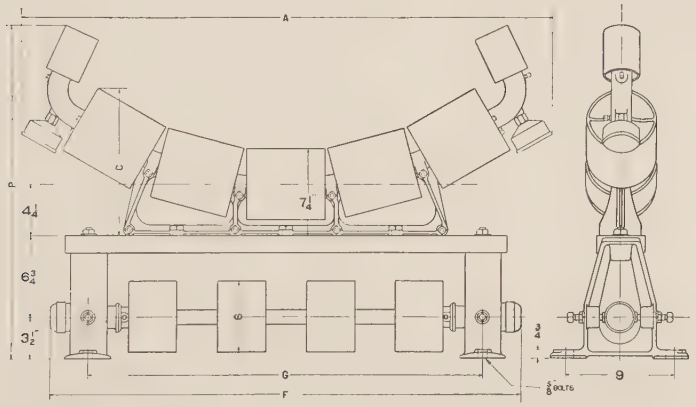
Style HC, Five and Six Pulleys, Mounted on Plank, With Side Guide Pulleys



Price List, Subject to Discount, and Dimensions, Inches

Width of Belt, Inches	Price Each	Number of Pulleys	CODE WORD	A	B	C	G	O	P
28	$20.25	5	Ligulifere	42	9	13½	36	1¾	19¼
30	20.90	5	Ligulis	44	9	14	40	1¾	19½
32	22.00	6	Liguloso	46	9	13	40	1¾	19¾
34	23.00	6	Liguons	48	9	13½	46	1¾	20¼
36	24.00	6	Liguorian	50	9	14	46	1¾	20¾

Style JC, Five and Six Pulleys, with Cast Iron Supports, With Side Guide Pulleys



Price List, Subject to Discount, and Dimensions, Inches

Width of Belt, Inches	PRICE EACH		Number of Pulleys	CODE WORD (See Note)	A	C	F	G	P
	With Return Rolls	Without Return Rolls							
28	$32.50	$25.00	5	Liguribus	42	11¾	44¼	36	27¾
30	34.00	25.70	5	Ligurien	44	12¼	48¼	40	28
32	35.50	27.00	6	Ligurienti	46	11¾	48¼	40	28
34	37.25	28.00	6	Liguritum	48	11¾	54¼	46	28½
36	39.00	29.00	6	Liguriunt	50	12¼	54¼	46	29

If Return Rolls are wanted with the concentrators, use the code word given in list above, and add the code word Lijmpot.

Pulley Style Concentrators

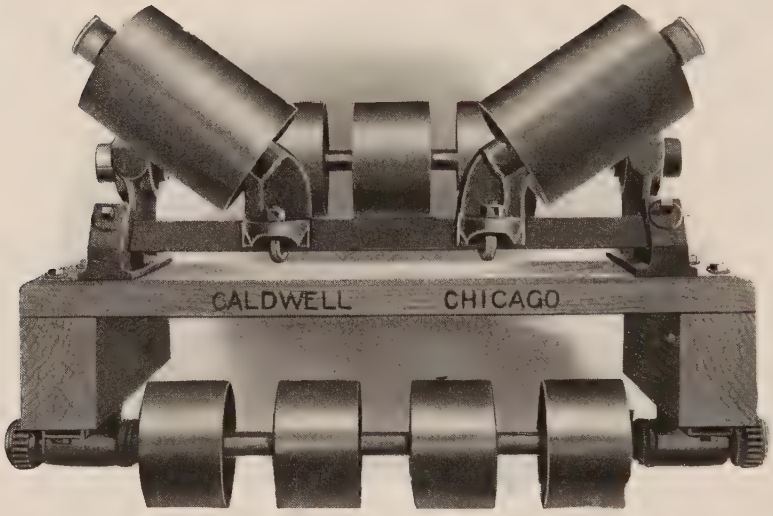


Fig. 45323. (*Vangiones*)

Pulley Style Concentrators are furnished with either 20°, 35°, or 45° concentrating rollers; 35° is the standard angle and will be furnished on all orders unless otherwise specified.

Price lists on pages 253 and 254.

Return rollers are shown on pages 260 to 264.

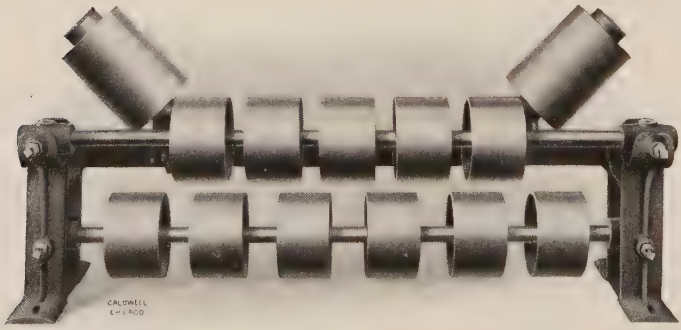
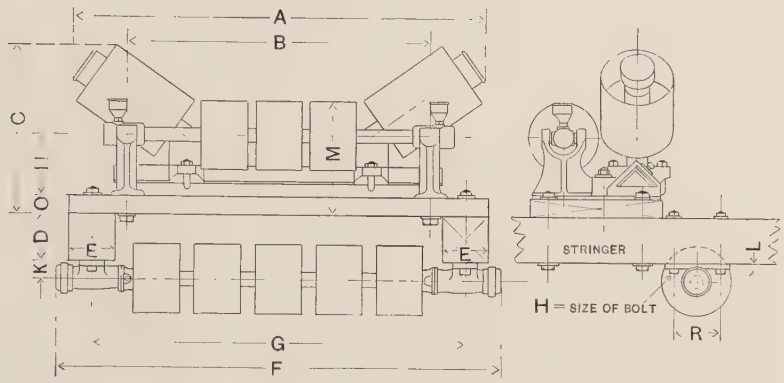


Fig. 45324. (*Landstube*)
45° Concentrator on Cast Iron Stand With Return Rollers. Style "S"

Pulley Style Concentrators, Mounted on Plank



Style L has 20° concentrating rollers.

Style M has 35° concentrating rollers and will be furnished on all orders unless otherwise specified.

Style N has 45° concentrating rollers.

Price List, Subject to Discount, and Dimensions

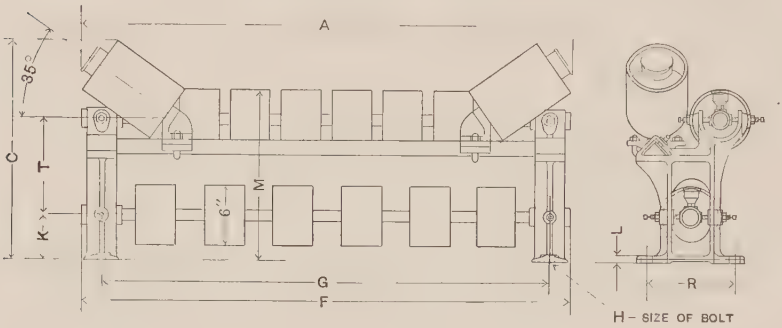
Width of Belt, Inches	Price Each Concentrators Only	CODE WORD	A Inches	B Inches	C Inches	F Inches	G Inches	M Inches	O Inches
12	$14.70	Lignicida	24	16	13¾	28¼	20	9½	1¼
14	14.70	Lignicidis	24½	18	13¾	32¼	24	9½	1¼
16	15.55	Lignicole	28	20	13¾	32¼	24	9½	1¼
18	15.55	Lignidion	30	22	14	36¼	28	9¾	1½
20	16.45	Lignifere	32	24	14	36¼	28	9¾	1½
22	16.45	Ligniferos	35½	26	14	40¼	32	9¾	1½
24	16.45	Ligniferum	36	28	14	40¼	32	9¾	1½
26	17.40	Lignifiant	39½	30	14	44¼	36	9¾	1½
28	17.40	Ligniforme	40	32	14¼	44¼	36	10	1¾
30	17.40	Ligniferde	41	34	14¼	48¼	40	10	1¾
32	18.30	Lignitic	44	36	14¼	48¼	40	10	1¾
34	18.30	Lignito	45½	38	14¼	54¼	46	10	1¾
36	19.20	Lignivore	49½	40	14¼	54¼	46	10	1¾
38	19.20	Lignivorus	50¾	42	14½	58¼	50	10¼	2
40	19.20	Lignoine	52	44	14½	58¼	50	10¼	2
42	20.00	Lignolet	54½	46	14½	62¼	54	10¼	2
44	22.00	Lignosas	56	48	14¾	62¼	54	10½	2¼
46	24.00	Lignoso	57½	50	14¾	66¼	58	10½	2¼
48	26.00	Lignotier	59	52	14¾	66¼	58	10½	2¼

Uniform Dimensions:

D(minimum) = 4 inches. E (maximum) = 4 inches.
H = ⅜ inch. I = ½ inch. K = 1½ inches.
N = 5¼ inches. R = 4 inches.

For price lists of Return Rollers, see pages 260 to 264.

Pulley Style Concentrators, with Cast Iron Stands



Style Q has 20° concentrating rollers.

Style R has 35° concentrating rollers and will be furnished on all orders unless otherwise specified.

Style S has 45° concentrating rollers.

Price List, Subject to Discount, and Dimensions

Width of Belt, Inches	With Return Rolls		Without Return Rolls		Style "Q" 20° A Inches	Style "R" 35° A Inches	Style "S" 45° A Inches	F Inches	G Inches
	Price Each	CODE WORD	Price Each	CODE WORD					
18	$26.00	Liggingen	$19.60	Lignaggio	30	30	29	32	28
20	27.50	Lightable	21.00	Lignantem	32	32	31	32	28
22	28.50	Lightened	21.15	Lignantis	35½	35½	34½	36	32
24	28.60	Lightening	21.25	Lignantium	36	36	35	36	32
26	30.20	Lighterage	22.80	Lignard	39½	39½	38½	40	36
28	30.30	Lighterman	23.00	Lignarder	40	40	39	40	36
30	31.30	Lighthouse	23.10	Lignarios	41	41	40	44	40
32	33.00	Lightsome	24.50	Lignationi	44	44	43	44	40
34	33.10	Ligiatura	25.00	Lignatoris	45½	45½	44½	50	46
36	34.60	Ligisticum	26.50	Lignearum	49½	49½	48½	50	46
38	37.10	Ligistisch	27.70	Ligneo	50¾	50¾	49¾	54	50
40	37.20	Ligisto	28.00	Lignecolum	52	52	51	54	50
42	40.00	Lignabaris	29.30	Ligneous	54½	54½	53½	58	54
44	42.00	Lignabitur	30.80	Lignerolle	56	56	55	58	54
46	44.00	Lignabor	32.30	Lignette	57½	57½	56½	62	58
48	46.00	Lignager	33.80	Ligneul	59	59	58	62	58

Uniform Dimensions

H = ½ inch.
K = 4½ inches.
L = ⅝ inch.
R = 8¾ inches.
M (Low Stand) = 15½ inches.
M (High Stand) = 17 inches.
T (Low Stand) = 8 inches.
T (High Stand) = 9½ inches.

C with Low Stand and with
20° Style Q = 18½ inches.
35° Style R = 19¾ inches.
45° Style S = 21⅜ inches.

C with High Stand and with
20° Style Q = 20 inches.
35° Style R = 21¼ inches.
45° Style S = 22⅞ inches.

Flat Belt Rollers with Cast Iron Stands

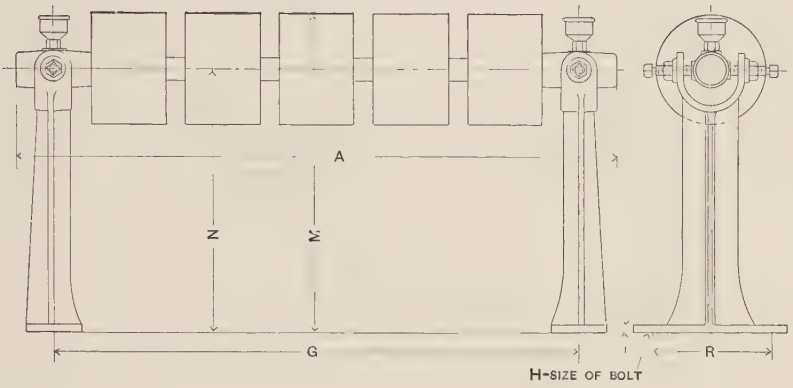


Fig. 45325. (*Lijmtonnen*)

In Grain Elevators this type of Flat Belt Roller is often used in connection with the Pulley Style Concentrators shown on the preceding page, being spaced alternately with the concentrators. Practically the same troughing effect is secured as if all concentrators were used, at somewhat less expense.

The list below covers two heights of stands, to correspond with the two heights of concentrator stands. In addition practically any height of stand can be furnished to suit conditions.

Price List of Pulley Rolls will be found on page 264.

Price List of Bearing Stands of various heights will be found on page 266.

Dimensions

Width of Belt, Inches	A Inches	G Inches	Width of Belt, Inches	A Inches	G Inches
18	32	28	34	50	46
20	32	28	36	50	46
22	36	32	38	54	50
24	36	32	40	54	50
26	40	36	42	58	54
28	40	36	44	58	54
30	44	40	46	62	58
32	44	40	48	62	58

The following dimensions are uniform for all sizes. H and L ½ inch. M, low stand, 15½ inches. M, high stand, 17 inches. N, low stand, 12½ inches. N, high stand, 14 inches. R 6⅜ inches.

Two Pulley Concentrators for Narrow Belts

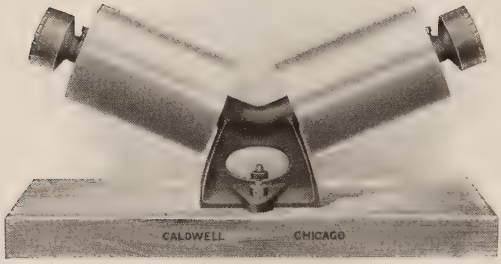


Fig. 45326. (*Landsturm*)
Concentrator Mounted on Plank—Style "U"

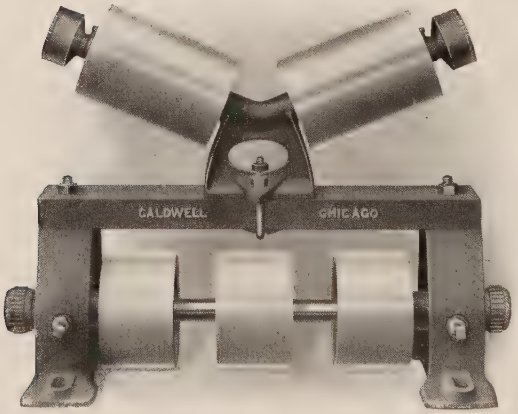
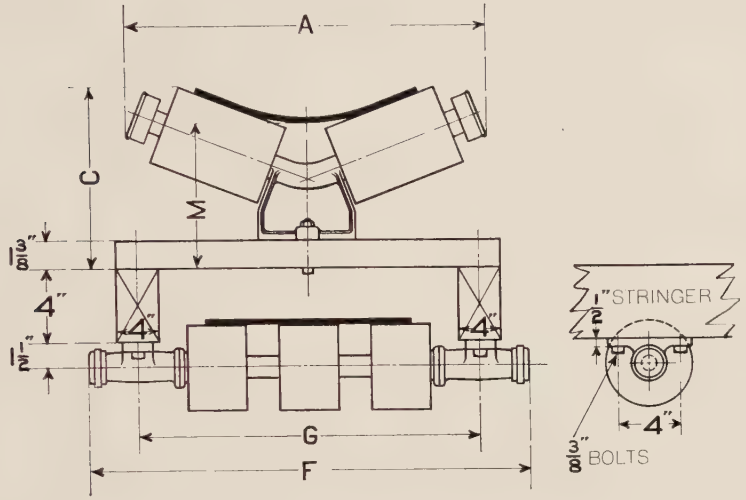


Fig. 45327. (*Alevisimo*)
Concentrator and Return Roller with Cast Iron Stand—Style "W"

This type of concentrator is satisfactory for narrow conveyor belts, not exceeding 18 inches wide. It is simple and comparatively inexpensive. The hollow shaft bearings are lubricated by large grease cups.

Price lists are given on the next page. Return Rollers for use with Style U Concentrators are shown on pages 260 to 264.

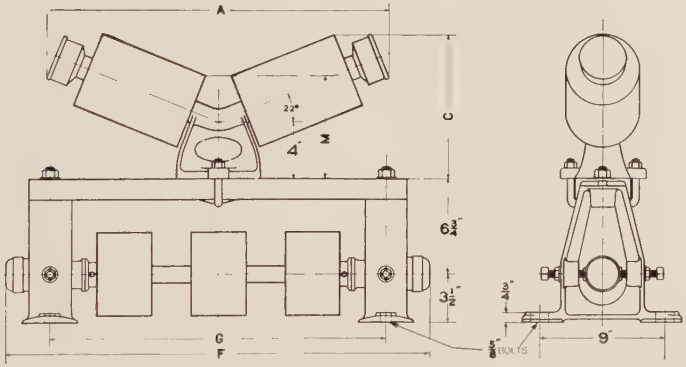
Style U Two Pulley Concentrators
Mounted on Plank



Price List, Subject to Discount, and Dimensions

Width of Belt, Inches	Price Each	Code Word	A Inches	C Inches	F Inches	G Inches	M Inches
12	$ 7.70	Lijmpotjes	21	10¾	28¼	20	9
14	8.65	Lijmpotten	25½	11¾	32¼	24	9⅜
16	9.35	Lijmroeden	25½	11¾	32¼	24	9⅜
18	12.00	Lijmsel	31½	13⅜	36¼	28	10⅛

Style W Two Pulley Concentrators
With Cast Iron Stands



Price List, Subject to Discount, and Dimensions

Width of Belt, Inches	PRICE EACH		Code Word	A Inches	C Inches	F Inches	G Inches	M Inches
	With Return Roll	Without Return Roll						
12	$17.60	$12.25	Lijmstang	21	9⅜	28¼	20	7¼
14	17.85	12.50	Lijmsters	25½	10⅜	32¼	24	7¼
16	17.85	12.50	Lijmstok	25½	10⅜	32¼	24	7¼
18	23.15	16.80	Lijmton	31½	12	36¼	28	8

Bell or Dish-Pan Concentrators

Fig. 45328. (*Aludel*)

The bells or dish-pans are loose on the shaft, thus compensating for the difference in speed due to the larger diameter of the dish-pan as compared to the smaller intermediate pulleys. The surface of bells or dish-pans and pulleys are finished.

Prices upon application.

Pearce Patent Differential Bearings for Dish-Pan Concentrators

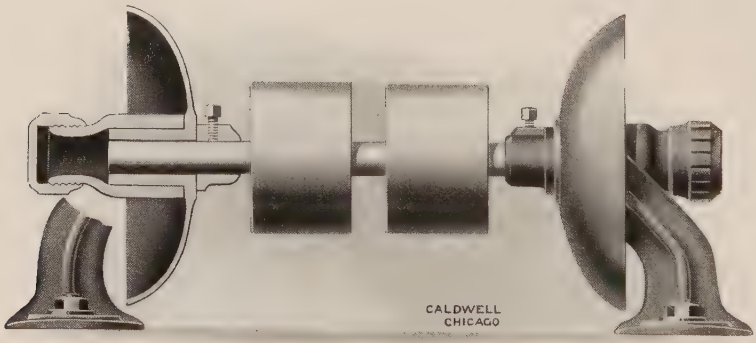


Fig. 45329. (*Almady*)

The shaft bearing is in the bore of the dish-pan. The outside of the hub of the dish-pan is finished and rotates in the journal bearing. As the shaft and dish-pan hub turn in the same direction the rotating speed of the shaft in its bearings is considerably reduced, while a large bearing surface is obtained by using the outside of the dish-pan hub for a journal. The end of the journal box forms a grease cup and the grease is forced directly to all parts of the bearing, while a ring of grease forms around the shaft and makes a dust-seal.

Prices upon application.

Adjustable Concentrating Rollers

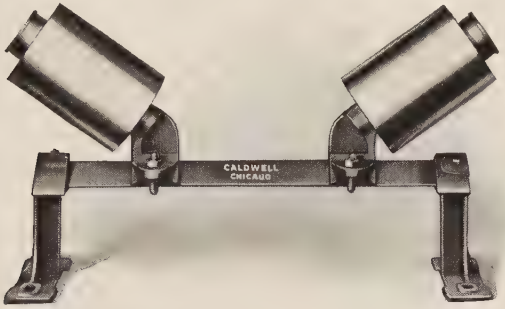


Fig. 45330. (*Lanugineum*)

Adjustable Concentrating Rollers are used at the loading points of flat conveyor belts. The rollers are of cast iron, with finished faces, and are mounted on hollow shafts with grease cups at the end. The angle iron cross bars are amply heavy for severe work and are supported by heavy cast iron stands.

Price per set, including stands, subject to discount,

For 12-inch to 18-inch belt	$8.75
For 20-inch to 30-inch belt	9.25
For 32-inch to 48-inch belt	9.75

Flat Belt Pulley Rollers with Double Stand

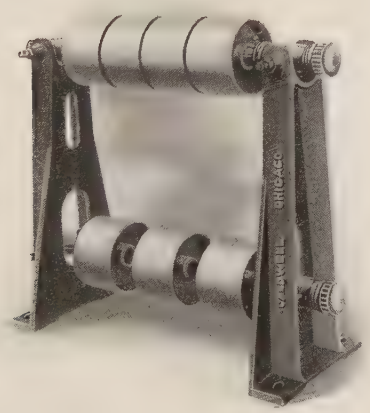


Fig. 45331. (*Landtorfes*)

Return Rollers
With Dust-Proof Screw Cap Bearings

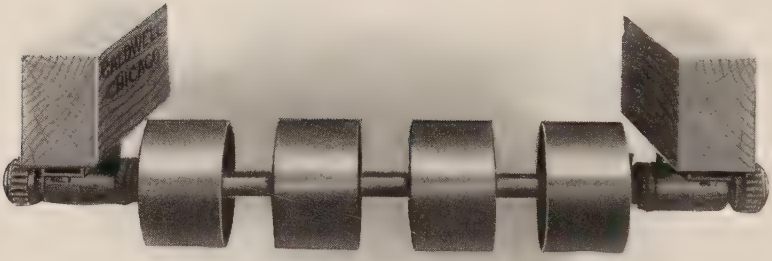


Fig. 45332. (*Lanuzza*)

This type of Return Roller is most generally used. The bearings are rigid and babbitted. The end of the bearing is fitted with a grease cup cap, of ample size. The grease prevents dust and dirt from reaching the bearing and makes it practically dust proof.

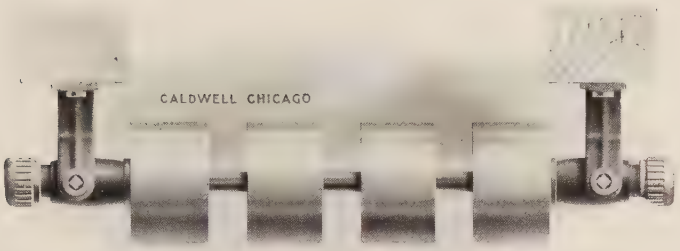
The pulleys are 6-inch diameter by 4-inch face, with finished face. The shafts are $1\frac{3}{16}$-inch diameter. Set Collars are Pressed Steel Safety Set Collars.

Price List, Subject to Discount

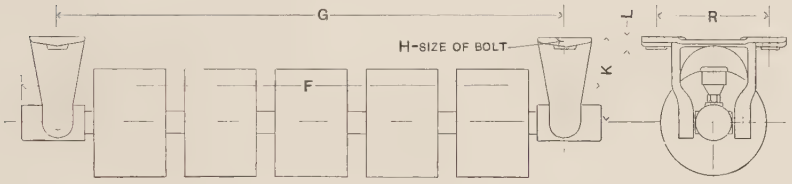
Width of Belt, Inches	Price Each	CODE WORD	Width of Belt, Inches	Price Each	CODE WORD
12	$ 8.20	Leriget	32	$12.60	Lernender
14	8.40	Leriste	34	12.90	Lerngier
16	8.40	Lerminier	36	12.90	Lernzeit
18	9.70	Lernaeos	38	13.10	Lesarten
20	9.70	Lernbares	40	13.10	Lesasses
22	11.10	Lernbegier	42	14.50	Lesbiaci
24	11.10	Lerneifer	44	15.00	Lottatore
26	11.30	Lerneomyze	46	15.50	Lotterbank
28	11.30	Lerneoneme	48	16.00	Lotterbett
30	12.60	Lerneopode			

For dimensions, see page 253.

Return Rollers
With Oscillating Bearings



Style A, Fig. 45333. (*Laralibus*)



Style B

Return Rollers with Oscillating Bearings are made in two styles—Style A, as shown in Fig. 45333, with Dust Proof Screw Cap Bearings, held in place by set screws, which permit of some adjustment—and Style B, as shown in line drawing, with closed end bearing resting in lugs in the frame. The dimensions are the same for either style.

In ordering, be sure to specify which style is wanted. Style A is furnished unless otherwise specified.

Bearings are babbitted. The pulleys are 6-inch diameter by 4-inch face, and have finished face. The shafts are $1\frac{3}{16}$-inch diameter. Set Collars are Pressed Steel Safety Set Collars.

Price List, Subject to Discount, and Dimensions

Width of Belt, Inches	Price	CODE WORD	F Inches	G Inches	No. of Pulleys	Width of Belt, Inches	Price	CODE WORD	F Inches	G Inches	No. of Pulleys
12	$ 9.30	Lanzadores	24	20	3	30	$13.70	Laodochus	44	40	6
14	9.50	Lanzados	28	24	3	32	13.70	Laogoras	44	40	6
16	9.50	Lanzeremos	28	24	3	34	14.00	Laogore	50	46	6
18	10.80	Lanzenwald	32	28	4	36	14.00	Laokoon	50	46	6
20	10.80	Lanzenwurf	32	28	4	38	14.20	Laomedee	54	50	6
22	12.20	Laodamas	36	32	5	40	14.20	Laomedonte	54	50	6
24	12.20	Laodicean	36	32	5	42	15.60	Laonicus	58	54	7
26	12.40	Laodicenos	40	36	5	44	15.60	Laonnais	58	54	7
28	12.40	Laodicense	40	36	5	46	15.80	Laonome	62	58	7
						48	15.80	Laophis	62	58	7

The following dimensions are uniform in all sizes. H $\frac{1}{2}$ inch. K $4\frac{3}{4}$ inches. L $\frac{5}{8}$ inch. R $6\frac{1}{4}$ inches.

Wood Rollers for Flat Belt Conveyors

Fig. 45334. (*Landsvader*)

Wood Rollers are used extensively in connection with flat belt conveyors, where the service is not too severe. They are also used for the return rolls of Troughed Belt Conveyors.

We can furnish Wood Rollers of practically any size required, but specify sizes below which cut from stock lumber with the least waste. The 5¾-inch diameter rollers are made with a $1\frac{3}{16}$-inch diameter shaft running entirely through the roller, and projecting at each end 3¼-inch for bearing. The roller is pinned to the shaft.

The 4¾-inch and 3¾-inch rollers have $\frac{15}{16}$-inch gudgeon shafts projecting 2¾-inch for bearing. They are intended for lighter service than the other style.

All of our wood rollers are made of well seasoned maple. The price list includes shafts but does not include bearings. Price list of bearings will be found on page 265.

Prices only apply to lots of 20 or more of one size ordered at one time.

Price List, Subject to Discount

Width of Belt, Inches	Price Each, and Code for Diameter			Code Word for Length	Length of Roller Inches
	3¾-inch (Lijmvat)	4¾-inch (Lijzeil)	5¾-inch (Lijwant)		
10	$ 8.00	$ 8.60	$ 9.00	Lessingie	12
12	8.50	9.20	9.60	Lessivage	14
14	9.00	9.80	10.20	Lessive	16
16	9.50	10.40	10.90	Lessiveur	18
18	10.00	11.00	11.60	Lessueste	20
20	10.50	11.60	12.20	Lestais	22
22	11.00	12.20	12.80	Lestezza	24
24	11.50	12.80	13.40	Lestique	26
26	12.00	13.40	14.10	Lestissimo	28
28	12.50	14.00	14.80	Lestrigone	30
30	13.00	14.70	15.50	Letabor	32
32	13.50	15.40	16.20	Letabuntur	34
36	14.50	16.70	17.50	Letalibus	38
40	15.50	18.00	19.00	Letalita	42
44	16.50	19.50	20.50	Letalium	46
48	17.50	21.00	22.00	Letamando	50

Steel Rollers for Flat Belt Conveyors

Fig. 45335. (*Landlaktik*)

Steel Rollers are used both with flat belt conveyors and as return rolls with troughed belt conveyors. They are made of steel tubing, with cast iron end pieces. The shafts are $1\frac{3}{16}$-inch diameter and run the entire length of the roller, projecting at each end $3\frac{1}{4}$-inch for bearings.

We can furnish special rollers of different dimensions to suit any condition. Prices on special rollers on application.

The list below covers rollers complete with shafts, but without bearings, in lots of 20 or more of one size ordered at one time. Price list of bearings will be found on page 265.

Price List, Subject to Discount

Width of Belt, Inches	Price Each, and Code for Diameter		Code Word for Length	Length of Roller Inches
	5-inch Diameter (Lijnbaan)	6-inch Diameter (Lijnkoek)		
16	$ 9.00	$11.00	Leucure	18
18	9.20	11.50	Leudaris	20
20	9.50	12.00	Leudaste	22
22	10.00	13.00	Leuderich	24
24	11.00	14.50	Leufredo	26
26	12.00	15.50	Leugarum	28
28	13.00	16.50	Leugbar	30
30	14.00	17.50	Leugbares	32
32	15.00	18.50	Leugenbank	34
36	16.00	19.50	Leugensmid	38
40	17.50	21.00	Leugentaal	42
44	18.70	22.00	Leugnen	46
48	20.00	23.30	Leugnender	50

Cast Iron Pulley Rolls for Flat Belt Conveyors

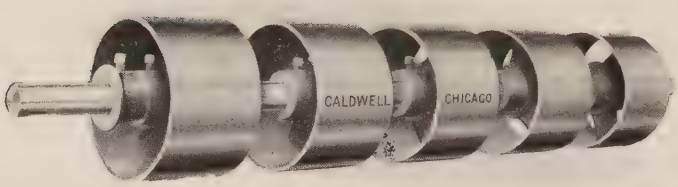


Fig. 45336. (*Amassment*)

The pulleys are set screwed to the shaft. They are 6-inch diameter by 4-inch face and have finished face. The shafts are $1\frac{3}{16}$-inch diameter.

Bearings are not included. For price lists of bearings, see pages 265 and 266.

Price List, Subject to Discount

Width of Belt, Inches	Price	CODE WORD	Length of Shaft for Plain Oscillating Bearings	No. of Pulleys
10	$ 5.00	Amateur	20 ins.	3
12	5.10	Amative	22 ins.	3
14	5.20	Amatorial	2 ft. 0 in.	3
16	5.30	Amatory	2 ft. 2 in.	3
18	6.50	Amaze	2 ft. 4 in.	4
20	6.60	Amazedly	2 ft. 6 in.	4
22	7.90	Amazement	2 ft. 8 in.	5
24	8.00	Amazing	2 ft. 10 in.	5
26	8.10	Amazon	3 ft. 0 in.	5
28	8.20	Amazonian	3 ft. 2 in.	5
30	9.40	Ambages	3 ft. 4 in.	6
32	9.50	Ambaginous	3 ft. 6 in.	6
34	9.60	Ambassador	3 ft. 8 in.	6
36	9.70	Ambassage	3 ft. 10 in.	6
38	10.90	Amber	4 ft. 0 in.	7
40	11.00	Amberseed	4 ft. 2 in.	7
42	11.10	Ambergris	4 ft. 4 in.	7

Plain Journal Box for Belt Rollers

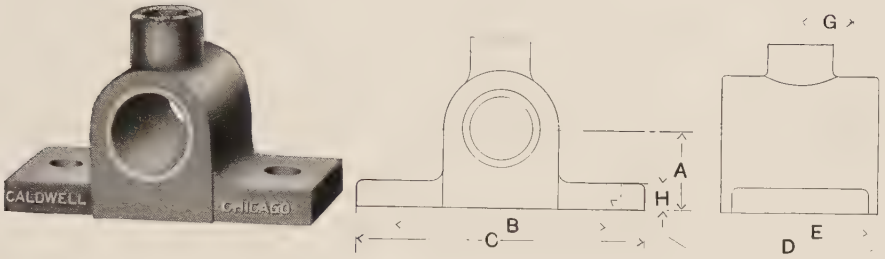


Fig. 45337. (*Landthier*)

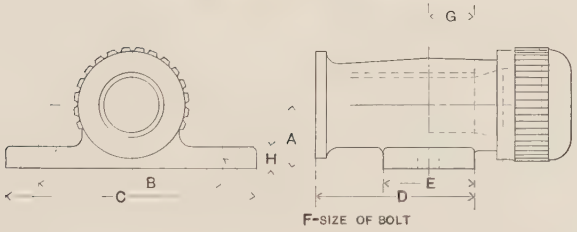
Bearings are babbitted. In the $1\frac{3}{16}$-inch size only, the bearing can be made with a shoulder as shown by dimension G, when so specified. The plain bearing without shoulder will be furnished unless otherwise specified.

Price List, Subject to Discount

Diam. of Shaft, Inches	Price	CODE WORD	A	B	C	D	E	F	G	H
$1\frac{5}{16}$	$0.50	Amblose	$1\frac{1}{2}$	$3\frac{1}{2}$	5	$2\frac{1}{2}$	2	$\frac{3}{8}$	..	$\frac{1}{2}$
$1\frac{3}{16}$	.80	Amblotical	$1\frac{1}{2}$	4	$5\frac{1}{2}$	3	$2\frac{5}{8}$	$\frac{3}{8}$	1	$\frac{1}{2}$

Dust-Proof Screw Cap Journal Box for Belt Rollers

Fig. 45338. (*Landtong*)



Price List, Subject to Discount

Diam. of Shaft, Inches	Price	CODE WORD	A Inches	B Inches	C Inches	D Inches	E Inches	F Inches	G Inches	H Inches
$1\frac{3}{16}$	$1.25	Amblotique	$1\frac{1}{2}$	4	$5\frac{1}{2}$	$3\frac{1}{2}$	2	$\frac{3}{8}$	1	$\frac{1}{2}$
$1\frac{7}{16}$	1.60	Laniaturos	$1\frac{1}{2}$	$4\frac{1}{2}$	6	$4\frac{1}{2}$	$2\frac{1}{2}$	$\frac{1}{2}$	$1\frac{1}{2}$	$\frac{1}{2}$

Oscillating Bearing Stands for Belt Rolls

Fig. 45339. (*Lijmvaten*)
High Stand with Style A Bearing

Fig. 45340. (*Lijmwater*)
Low Stand with Style B Bearing

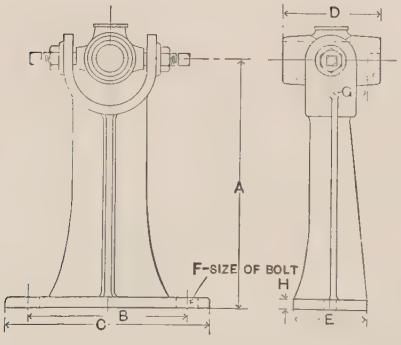
These Bearing Stands are made in various heights and with two styles of bearings Style A Bearing has a grease cup on the end of the bearing, the construction being the same as the Dust Proof Screw Cap Bearing on page 265. Style B Bearing is a plain bearing with the grease cup on the top.

The Style B Bearing for $1\frac{3}{16}$-inch shaft only can also be made with shoulder, as shown by dimension G in the line drawing below. This makes the use of a set collar unnecessary.

Price List, Subject to Discount

Height, Base to Center of Shaft, Inches	Price Each, Style A		Price Each, Style B		Code Word for Height
	$\frac{15}{16}$-inch (Lilybe)	$1\frac{3}{16}$-inch (Lilmos)	$\frac{15}{16}$-inch (Lilien)	$1\frac{3}{16}$-inch (Lillato)	
3	$1.80	$2.40	$1.35	$1.95	Lessavano
4	1.95	2.55	1.50	2.10	Lessching
6	2.10	2.70	1.65	2.25	Lessenaars
9	2.25	2.85	1.80	2.40	Lessening
12	2.40	3.00	1.95	2.55	Lessertia
14	2.55	3.15	2.10	2.70	Lessiamo

In telegraphing use code word for style and bore at head of price column, and follow with code word for height.



Dimensions, Inches

	Style A		Style B	
Bore	$\frac{15}{16}$	$1\frac{3}{16}$	$\frac{15}{16}$	$1\frac{3}{16}$
B	$6\frac{3}{8}$	$6\frac{3}{8}$	$6\frac{3}{8}$	$6\frac{3}{8}$
C	$8\frac{1}{4}$	$8\frac{1}{4}$	$8\frac{1}{4}$	$8\frac{1}{4}$
D	5	5	$2\frac{1}{2}$	4
E	3	3	3	3
F	$\frac{1}{2}$	$\frac{1}{2}$	$\frac{1}{2}$	$\frac{1}{2}$
G	.....	.....	.....	$1\frac{1}{2}$
H	$\frac{5}{8}$	$\frac{5}{8}$	$\frac{5}{8}$	$\frac{5}{8}$

Portable Loading Hopper for Belt Conveyors

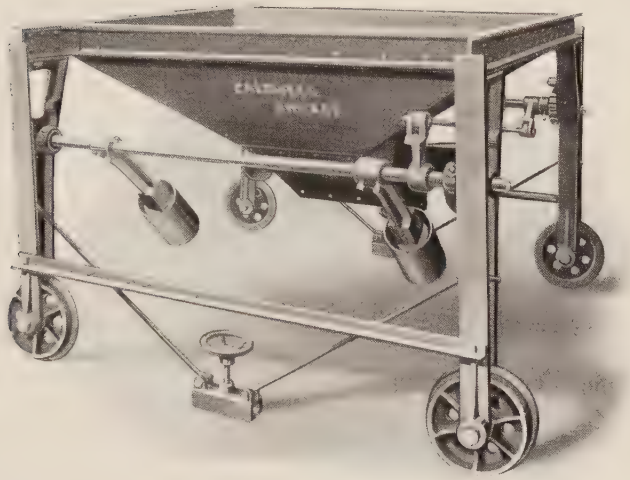


Fig. 45341. (*Laophonte*)

Where material must be loaded on the conveyor at several points, this Portable Loading Hopper will be found both convenient and economical. Unless the material is fed to the belt through a spout discharging in the direction the conveyor carries, the wear on the belt is excessive. This is particularly true with materials which are gritty, such as stone and gravel. This Loading Hopper tends to reduce the wear at the loading point, and also makes the load on the conveyor more uniform.

The Hopper is arranged to travel on the tripper tracks, and has rail clamps to lock it in place. The concentrating rollers hold the belt firmly in position while loading, and can be thrown out of the way when the Hopper is being moved to the next loading point.

Prices will be named upon application.

Guide Rollers for Belt Conveyors

Style "A." Fig. 45342. (*Altistin*)

Style "B." Fig. 45343. (*Altitudo*)

These Rollers are used to prevent the conveyor belt from running out of a true line.

Style A Rollers are used with Flat Belts, on the return strand of Troughed Belt Conveyors, and with Troughed Belts where a tripper is to be used.

Style B Rollers are used with Troughed Belt Conveyors on the carrying side, where a movable tripper is not used, or on that portion of the conveyor where the tripper does not travel.

Price List, Subject to Discount

Height, Base to Center of Pulley, Inches	Price, Each	CODE WORD for Size	Height, Base to Center of Pulley, Inches	Price, Each	CODE WORD for Size
6	$4.65	Langrippig	14	$5.25	Langsaege
8	4.80	Langrois	16	5.40	Langsam
10	4.95	Langrund	20	5.70	Langsamer
12	5.10	Langrunder	24	6.00	Langsessel

Guide Rollers for Belt Conveyors
Style C

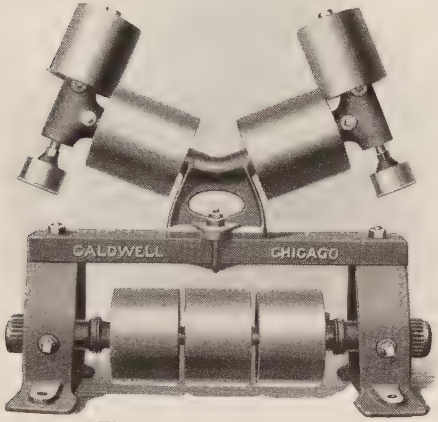


Fig. 45344. (*Landtorf*)
With Two Pulley Concentrator

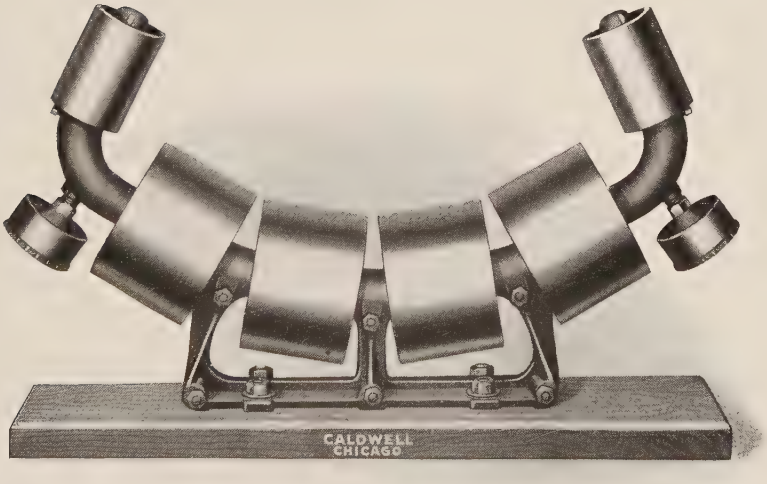


Fig. 45345. (*Lijnkoeken*)
With Uniform Concentrator

Style C Guide Rollers have brackets fitting on the end of the hollow concentrator shafts. Both the concentrator and the guide roller are lubricated from the same grease cup. This type of guide roller can be used only with Uniform Concentrators, Pulley Style Concentrators, and Two Pulley Concentrators.

Price per pair, subject to discount $10.00

The price includes Guide Rollers, Brackets, and Grease Cups.

Conveyor Belts

Fig. 45346. (*Alheador*)

Fig. 45347

Rubber Belt is generally used for conveyor work. The rubber covering resists moisture and protects the fabric from wear. When stone, ore or other material which would cut the ordinary belt is to be carried, it is often advisable to use a rubber belt with an extra thick covering of rubber on the carrying side. This extra covering not only wears longer, but prevents any cuts reaching the fabric. The slight additional cost is more than repaid in the greatly increased life.

The cuts above show a typical cross section of a four ply rubber belt with extra cover. Our conveyor belts have been made for us for many years by the same rubber manufacturer and have given uniformly satisfactory service. We will be pleased to give recommendation as to weight, grade and covering, and to name prices upon receipt of information as to the service to be performed, length of conveyor, etc.

Cotton Belt, Special Stitched Canvas Belt, and Woven Fabric Belt, are all used to some extent in belt conveyor work. They are generally less expensive than rubber belt, and for light work, and where the conveyor is only to be used a short time, very often prove entirely satisfactory.

Slat Pulleys for Conveyors

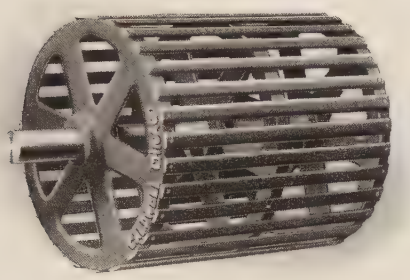


Fig. 45348. (*Lapament*)

Slat Pulleys are used with conveyors handling clay, dirt or other material which might pack between the belt and the face of the ordinary type of pulley. These pulleys are made either with wood slats fastened to cast iron end rings, or are made in one casting both end rings and slats being of cast iron.

Prices upon application.

Revolving Brush for Belt Conveyors

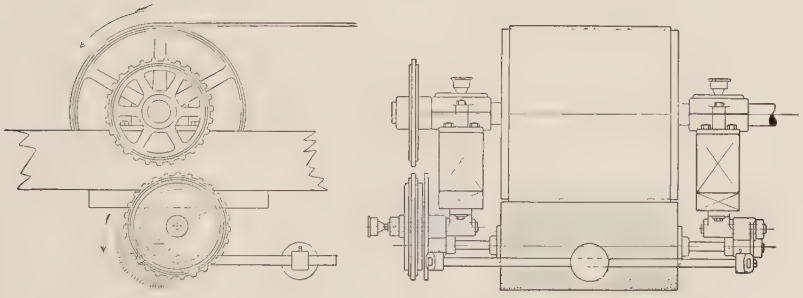


Fig. 45349. (*Laparao*)

In handling moist or sticky material, some material generally sticks to the belt and is carried back on the return strand, packing on the return rolls and gradually hardening on the belt. To avoid this, a Revolving Brush can be used at the head of the conveyor. The brush is driven by a chain drive from the head shaft, and is held in contact with the belt by means of the weighted lever.

Prices upon application.

Magnetic Head Pulleys

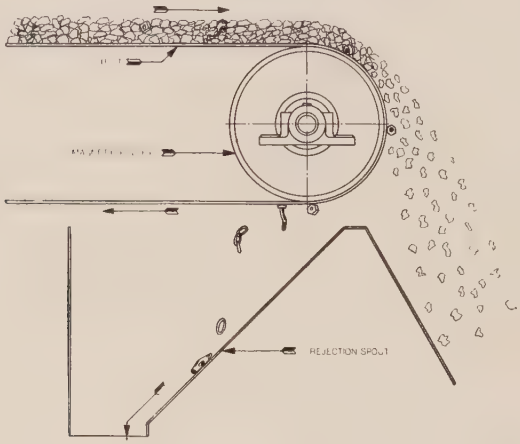


Fig. 45350. (*Limitado*)

Where a belt conveyor is carrying material to a crusher or other machine which would be damaged by stray pieces of iron or steel in the material, a magnetic head pulley will be found very useful in preventing trouble. Magnetic Head Pulleys can be operated from Direct Current only. The brushes for the power are on an extension of the head shaft.

Made in sizes from 9-inch to 30-inch in diameter and from 12 inches to 48 inches in face. Prices will be quoted on application.

Screw Conveyor Feeder

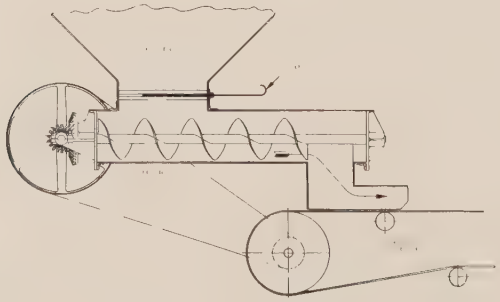


Fig. 45351. (*Limitacao*)

A screw conveyor makes a very satisfactory feeder, and with a double flight, as shown in the drawing above, the flow of material is more nearly uniform. The quantity of material fed can be regulated by changing the speed of the conveyor.

Shaking Feeder

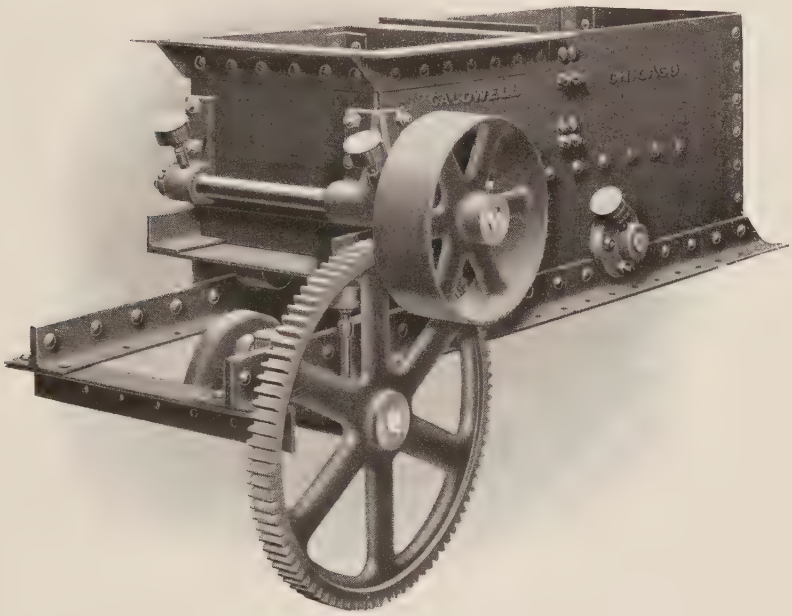


Fig. 45352. (*Limitalia*)

The Shaking Feeder consists of a reciprocating plate, resting on rollers, operated by an eccentric. An adjustable slide gate provides for regulating the flow of material.

Prices upon application.

Rotary Quadrant Feeder

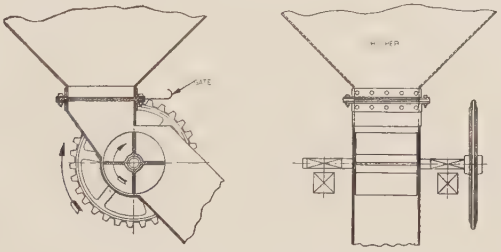


Fig. 45353. (*Limitabunt*)

This type of feeder is used satisfactorily with almost any material, and will give a practically constant feed. It can be connected to the tail shaft of the conveyor through gears, chain or belt, so that the supply of material is automatically cut off when the conveyor stops.

Discharging Rollers for Flat Belt Conveyors

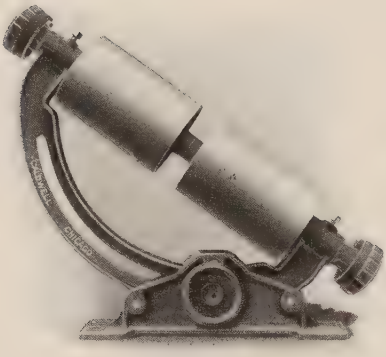


Fig. 45354. (*Lagerstuhl*)

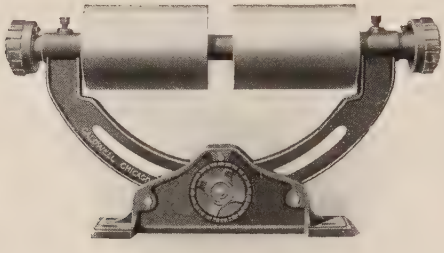


Fig. 45355. (*Lagerten*)

Where delivery of the material on a flat belt conveyor is not desired at an exact point, but only along a certain portion of the conveyor, these Discharging Rollers can be used in place of a tripper. Discharging Rollers can only be used with narrow belts, up to 18 inches wide. The material will begin to fall from the belt before reaching the Discharge Roller and will be spread along the conveyor for some distance.

Prices upon application.

Tripper Rail Chairs

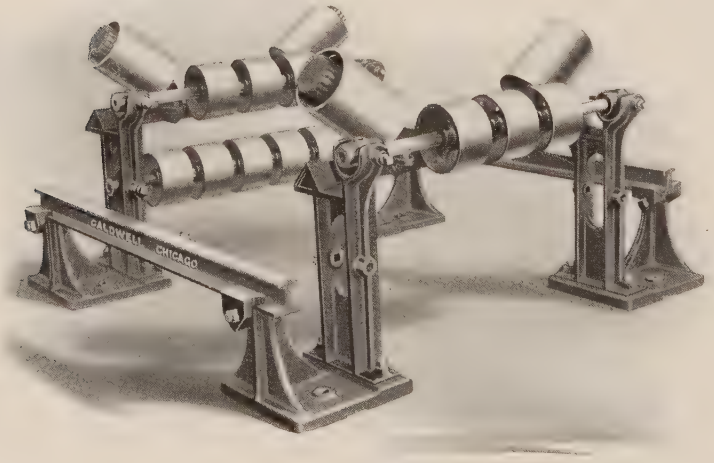
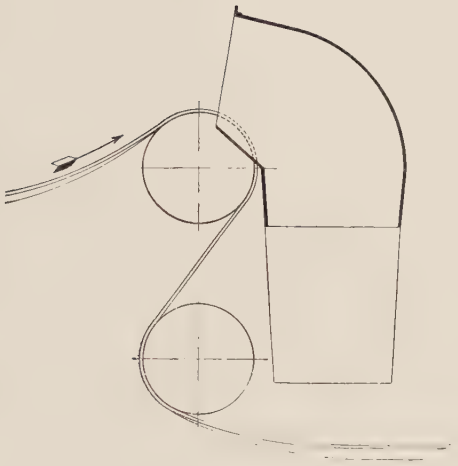


Fig. 45356. (*Landtruppe*)

Where the conveyor is built on a floor, Rail Chairs or Stands are needed to raise the tripper rail to the proper height. Those shown above are combination rail chairs and bases for the concentrator stands. We can furnish stands of practically any height required. Prices upon application.

Trippers



The diagram above shows the principle on which a Belt Conveyor Tripper operates. Where material is only to be discharged at one or two points, Stationary Trippers may be used, so arranged with spouts and gates that the material may be either discharged at the tripper or spouted beyond the tripper to the belt again. A Stationary Tripper consists only of two pulleys with necessary shafts and bearings, and is generally mounted on a frame work of timbers constructed on the ground.

As each tripper, whether stationary or movable, requires a certain amount of power, due to the elevating of the material to the point of discharge and the friction of the mechanism, it is generally preferable to use a movable tripper where the material must be discharged at a number of points. Movable Trippers are of two types, those moved along the track by hand, and those which use the power of the conveyor belt to move the tripper.

Cuts and dimensions of our trippers are shown on the following pages.

Hand-Propelled Tripper

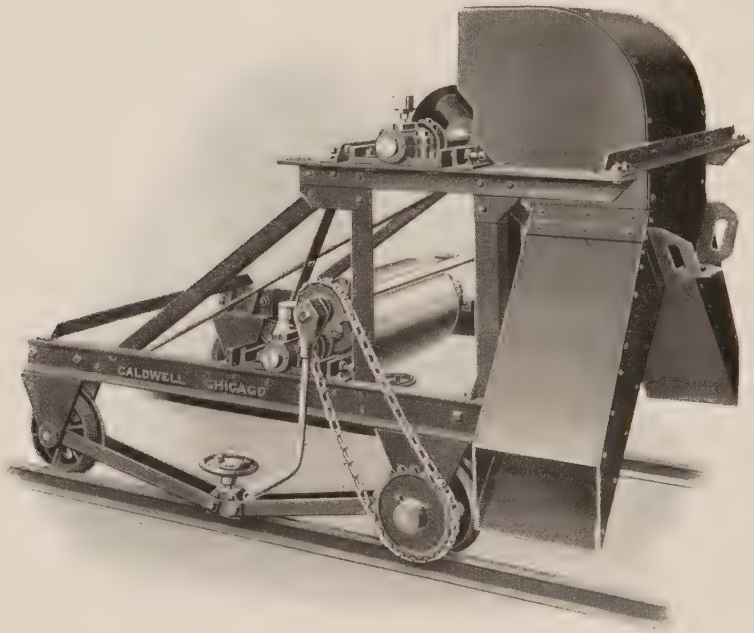


Fig. 45357. Tripper with Two Way Spout. (*Lijnkruid*)

The hand crank shaft is connected by link belting with two of the wheels on the track and the tripper is thus moved along the rails. The crank shaft is squared on both ends, so that the tripper can be moved from either side.

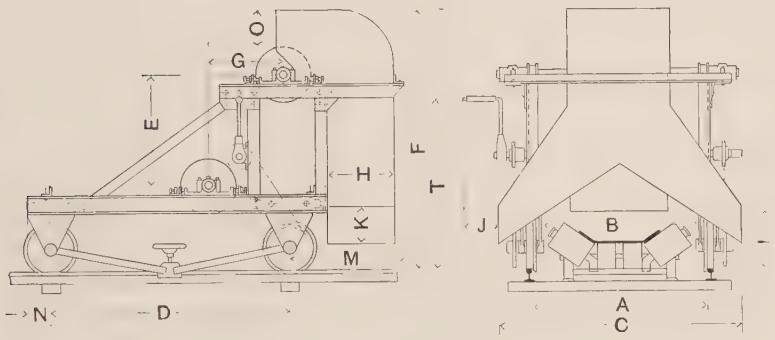
The spout can be made to discharge on either or both sides or can be arranged for three way discharge as shown in Fig. 45358. In ordering or asking for prices please specify the style of spout required and the material to be handled or the gauge of steel required in the spout.

A Trailer, consisting of a structural steel frame on track wheels, with concentrators to support the belt as it approaches the tripper, can be furnished at additional charge.

Dimensions of trippers for various widths of belt are shown on the opposite page.

Prices upon application.

Dimensions of Hand Propelled Trippers



Width of Belt, Inches	A Ins.	B Ins.	C Ins.	D Ins.	E Ins.	F Ins.	G Ins.	H Ins.	J Ins.	K Ins.	L Ins.	M Ins.	N Ins.	O Ins.	T Ins.
12	31½	27	46	51	23½	56	16⅜	14	7½	12	12¼	24½	5	8	36½
14	33½	29	48	51	23½	56	16⅜	14	7½	12	12¼	24½	5	8	36½
16	35½	31	50	51	23½	56	16⅜	14	7½	12	12¼	24½	5	8	36½
18	37½	33	52	51	23½	56	16⅜	16	7½	14	12¼	26½	5	8	36½
20	39½	35	54	51	23½	56	16⅜	16	7½	14	12¼	26½	5	8	36½
22	41½	37	56	51	23½	56	16⅜	16	7½	14	12¼	26½	5	8	36½
24	43½	39	58	51	23½	56	16⅜	20	7½	16	12¼	30½	5	8	36½

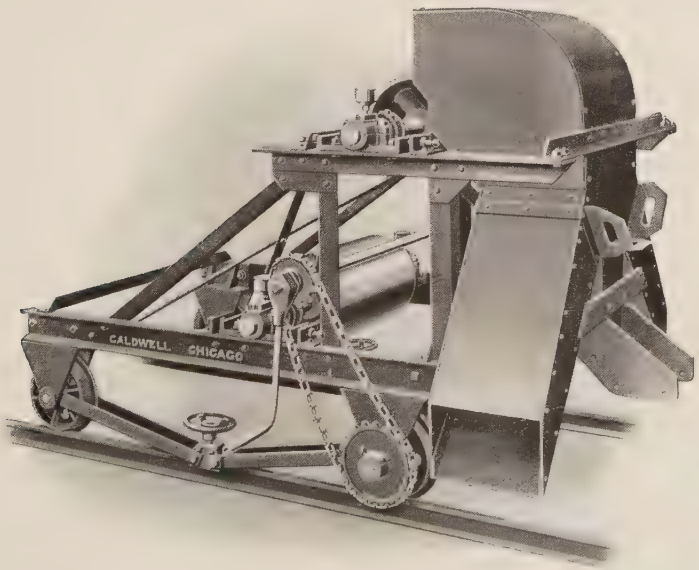


Fig. 45358. Tripper with Three-Way Spout. (*Landtrauer*)

Self-Propelled Tripper

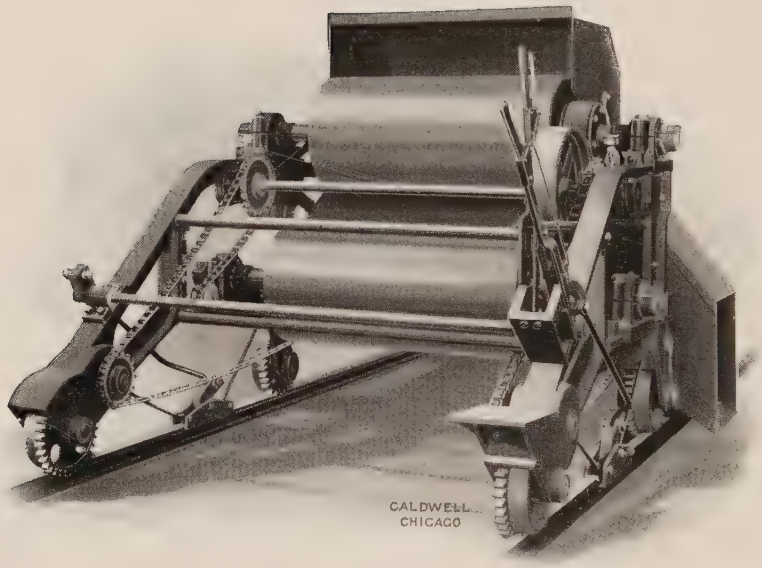


Fig. 45359. (*Landulpho*)

This tripper is moved back and forth on the rails by means of the power of the conveyor belt transmitted through gears and sprocket drive to the wheels on the track.

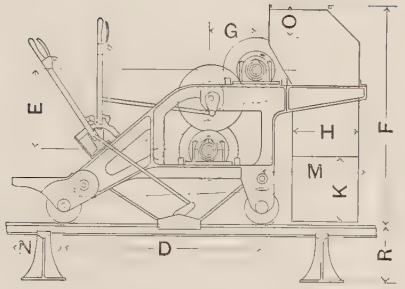
It can be furnished with spout discharging on either or both sides. In ordering or asking for price please specify style of spout required.

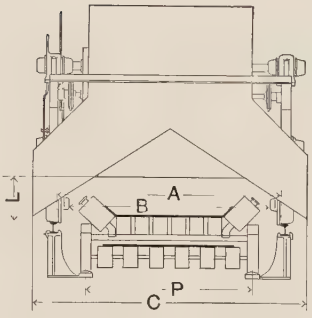
This tripper can also be furnished with a trailer to support the conveyor belt when approaching the tripper.

Dimensions for various widths of belt on opposite page.

Prices upon application.

Dimensions of Self-Propelled Tripper





Width of Belt, Inches	A Ins.	B Ins.	C Ins.	D Ins.	E Ins.	F Ins.	G Ins.	H Ins.	K Ins.	L Ins.	M Ins.	N Ins.	O Ins.	P Ins.	R Ins.
18	43½	37¼	55½	54	22	61½	12¾	16	14	12½	25¼	14¼	10	28	15½
20	45½	39¼	57½	54	22	61½	12¾	16	14	12½	25¼	14¼	10	28	15½
22	47½	41¼	59½	54	22	61½	12¾	16	14	12½	25¼	14¼	10	32	15½
24	49½	43¼	61½	54	22	61½	12¾	20	16	12½	29¼	14¼	10	32	15½
26	51½	45¼	63½	54	22	61½	12¾	20	16	12½	29¼	14¼	10	36	15½
28	53½	47¼	65½	54	22	61½	12¾	20	16	12½	29¼	14¼	10	36	15½
30	55½	49¼	67½	54	22	61½	12¾	22	18	12½	31¼	14¼	10	40	15½
32	57½	51¼	69½	54	22	61½	12¾	22	18	12½	31¼	14¼	10	40	15½
34	59½	53¼	71½	54	22	61½	12¾	22	18	12½	31¼	14¼	10	46	15½
36	61½	55¼	73½	54	22	61½	12¾	24	20	12½	33¼	14¼	10	46	15½
38	63½	57¼	75½	54	22	61½	12¾	24	20	12½	33¼	14¼	10	50	15½
40	65½	59¼	77½	54	22	61½	12¾	24	20	12½	33¼	14¼	10	50	15½
42	67½	61¼	79½	54	22	61½	12¾	28	22	12½	37¼	14¼	10	54	15½
44	69½	63¼	81½	54	22	61½	12¾	28	22	12½	37¼	14¼	10	54	15½
46	71½	65¼	83½	54	22	61½	12¾	28	22	12½	37¼	14¼	10	58	15½
48	73½	67¼	85½	54	22	61½	12¾	28	22	12½	37¼	14¼	10	58	15½

Gravity Take-Ups

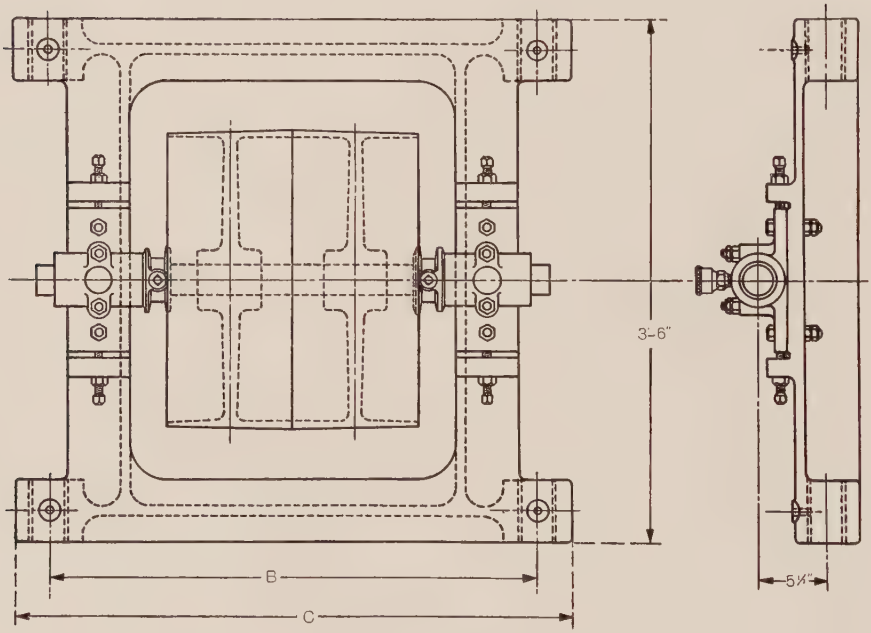


Fig. 45360. (*Limitarono*)

For conveyors working in the open, where the effect of moisture, heat and cold on the belt make frequent adjustment of the ordinary screw take-up necessary, we recommend the use of the Gravity Take-Up shown above. This take-up is generally located on the return strand near the head or drive pulley, but can be located anywhere on the return belt. The amount of travel depends on the length of conveyor, and the space available under the belt.

The take-up frame fits loosely on the pipe slides. The pulley is made extra heavy and is generally heavy enough to give proper tension to the belt. With very long conveyors, weights can be attached to the take-up frame, if necessary.

Prices will be quoted on application.

Vibrating Trough or "Grasshopper" Conveyors

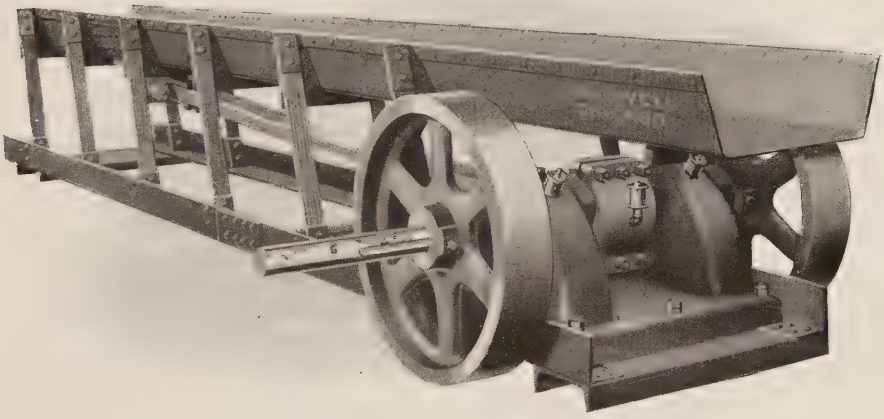


Fig. 45361. (*Limitarian*)

This type of conveyor is used in sugar mills and in other places where sticky materials must be conveyed. The rapid reciprocating action of the trough keeps the material constantly in motion and it does not stick to the trough. The trough can be readily cleaned without dismantling the machinery in any way.

Prices will be quoted upon receipt of information as to capacity, material to be handled, distance to be conveyed, power available, etc.

Steel Pan Conveyors

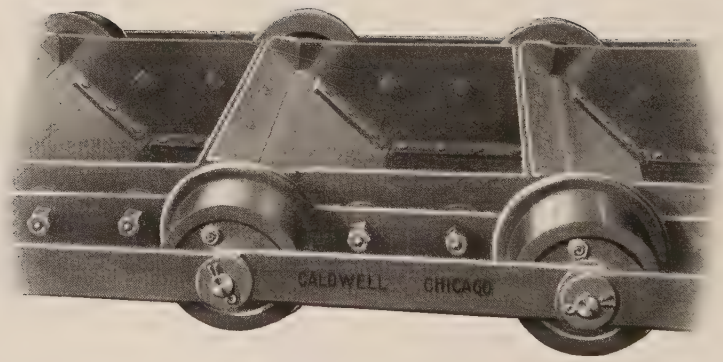


Fig. 45362. (*Drimya*)

Steel Pan Conveyors are made in a wide variety of styles and sizes, to suit almost any condition. In the type shown above, the ends of the pans are closed, preventing the spilling of the material in transit or at the time of delivery. The chain is a long pitch steel roller chain, with self lubricating rollers. The pins are turned steel and the bushings case hardened.

Cast Iron Supports or Steel Frames can be furnished for this type of conveyor. Wooden framework is generally built in the field by the purchaser.

Steel Pan Conveyors

Cast Iron Pan Conveyors

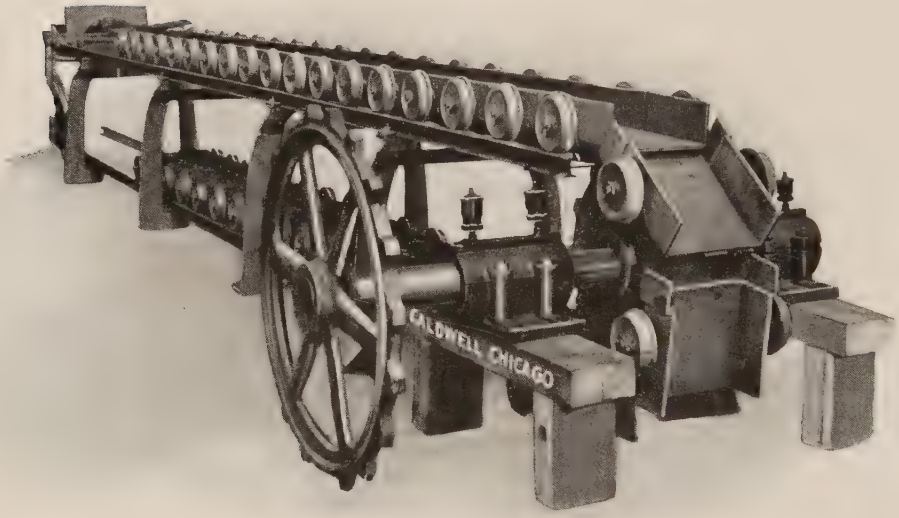


Fig. 45363. (*Ambustion*)

The Cast Iron Pan Conveyor shown above is particularly adapted for handling hot material, such as ashes, cinders, slag, roasted ore, etc. It is also used to convey stone, rock, and other abrasive materials, which might rapidly wear out a rubber belt conveyor.

Cast Iron Pan Conveyors are made with various sizes of pans, and with either cast iron supports as shown in cut, steel framework, or with wooden framework. The type and size of chain to be used depends on the length of conveyor and size of pans. The chain shown in the cut is Malleable Iron and Steel Combination Chain.

On page 286 are shown several types of Self Lubricating Rollers which can be used with this conveyor. As the weight of the pans and the load is carried by the rollers, the conveyor operates with a comparatively small amount of power.

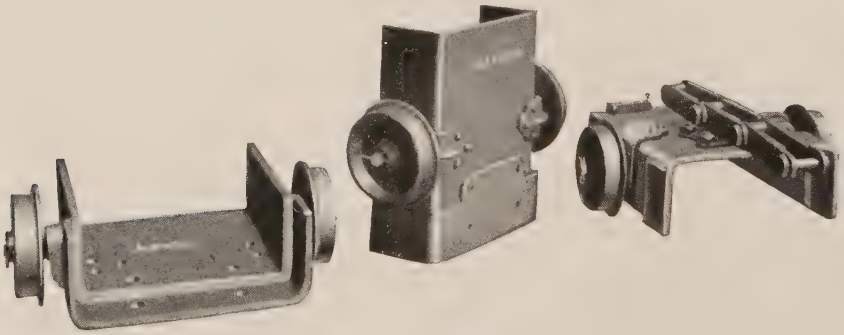


Fig. 45364.

Beaded Flight Conveyors

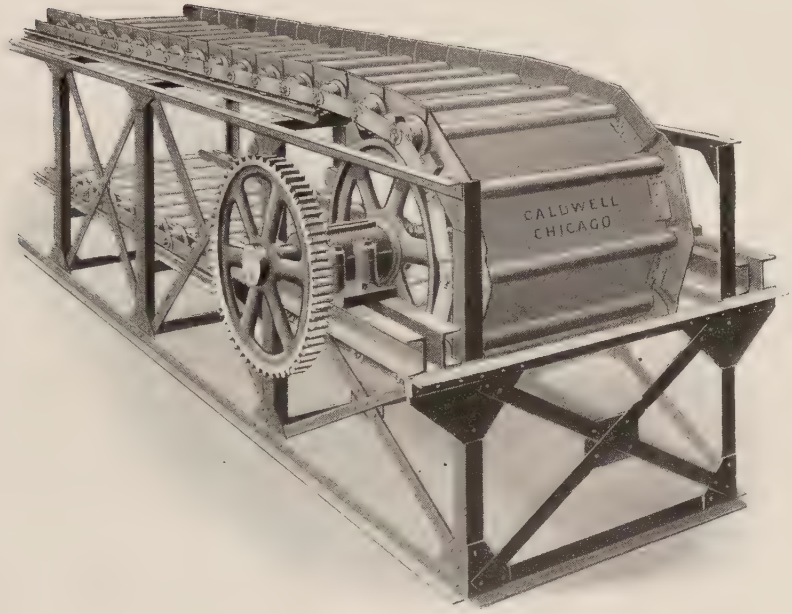


Fig. 45365. (*Abought*)

The pans or flights for a Beaded Flight Conveyor are pressed with a curved bead at each end. The bead on one flight overlaps the bead on the next, preventing the spilling of the material, and providing a continuous apron. This type of conveyor is made in various widths and both with and without side pieces to retain the material. The chain is generally a long pitch steel bushed roller chain, with self lubricating rollers.

Beaded Flight Conveyors are often used in short sections as Feeders for other conveyors.

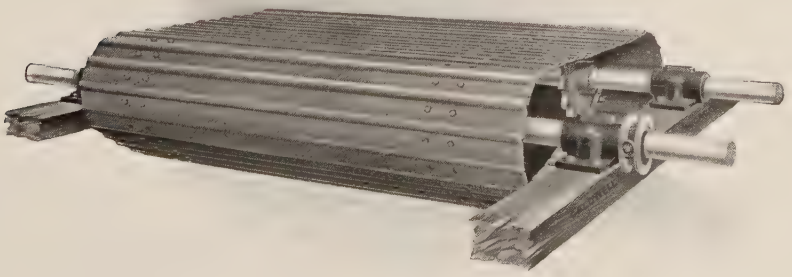


Fig. 45366. (*Laparinho*)

Self Lubricating Wheels for Pan Conveyors

Fig. 45367. (*Adagione*)

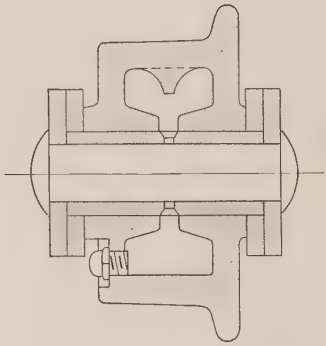


Fig. 45368. (*Lanicute*)
With Oil Fin

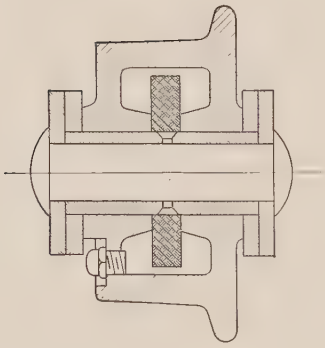


Fig. 45369. (*Laniavimus*)
With Felt Washer

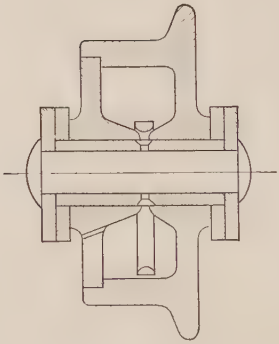


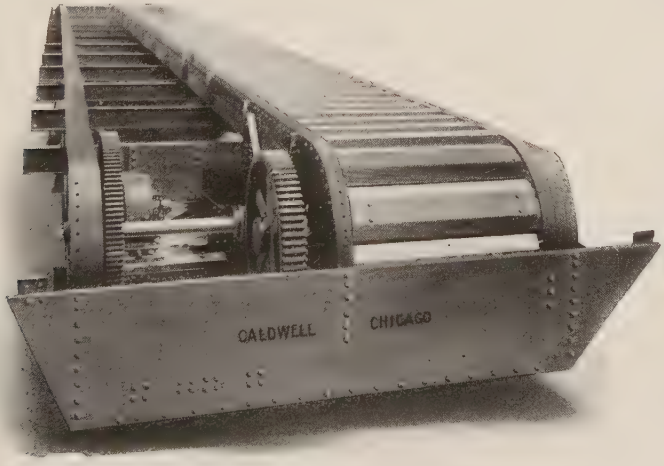
Fig. 45370. (*Lanictere*)
Ring Oiling

Self Lubricating Wheels reduce the labor required in the care of a pan conveyor, and also the power required to operate it. We make several types, as shown in diagrams above, any one of which will be found satisfactory.

The rollers shown in the line drawings are not bushed, the bushings shown being a part of the chain. We can furnish the rollers bushed if required. The chain can be furnished detachable with cotter pins in place of the rivets shown.

Dock Ramps

Dock ramp or ship unloading conveyor. Receiving end adjustable for height to accommodate rise and fall of tide. One of ten installed at Southern Pacific docks, New Orleans.



Dock ramp before installation, showing general design.

Apron Conveyors

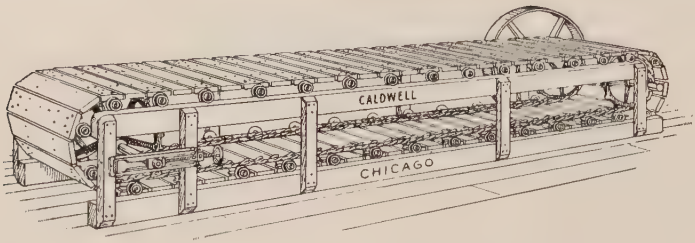


Fig. 45371. (*Ambush*)

Apron Conveyors are made with wood flights, generally of maple, fastened to chain, and running on rollers, which are either fastened to the end of the flights or to the chain. For light work, it is customary to use Detachable Link Belting, with light cast iron rollers or steel or cast iron shoes on the end of the flights, as shown in Fig. 45371. K1 or K2 attachments are used, and the size of chain depends on the length of conveyor and the load carried.

The chain may be mounted on the end of the flights, and A1, A3 or A11 attachments used. In this case, the chain also supports the load, generally running on a maple wearing strip.

For heavier work, a steel or malleable roller chain is used.

In some cases, steel slats are used in place of the maple flights.

Fig. 45372. (*Laparelli*)

Platform Conveyor Carrying Oil Mill Cake

Apron or Platform Conveyors are often set level with the floor, so that the material or packages carried can be easily loaded and unloaded. Inquiries for this type of conveyor should give the largest size of package to be carried, the number to be carried per hour, the distance to be conveyed, and the kind of power available.

Flight Conveyors

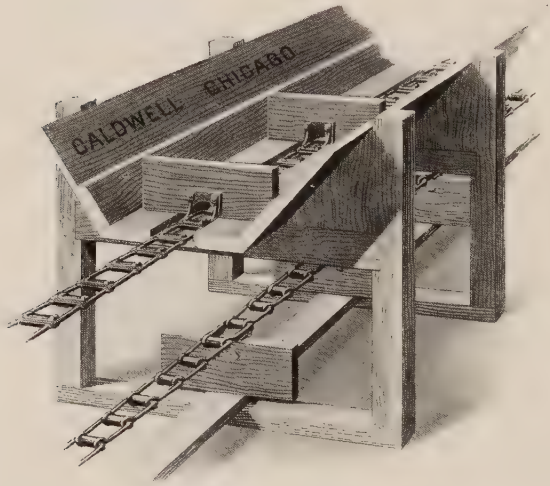


Fig. 45373. (*Ameliorate*)
Carrying on Upper Strand.

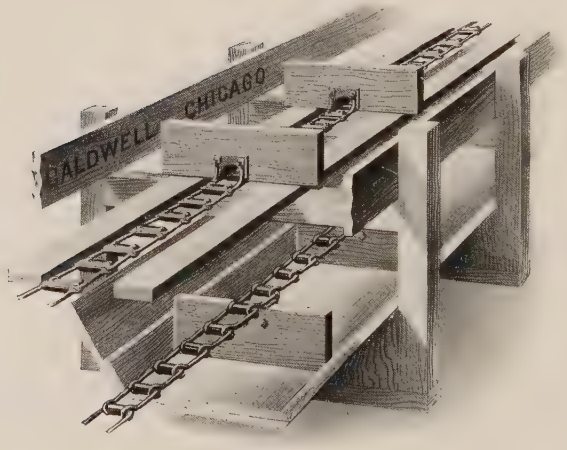


Fig. 45374. (*Amenable*)
Carrying on Lower Strand.

Flight Conveyors can be furnished with flights of either wood or steel. For light work, Detachable Link Belting is generally used, with maple flights. The wood framework is generally constructed on the ground by the purchaser, our prices usually including the head and foot shafts with bearings, sprocket wheels, chain, and flights.

Flight Conveyor

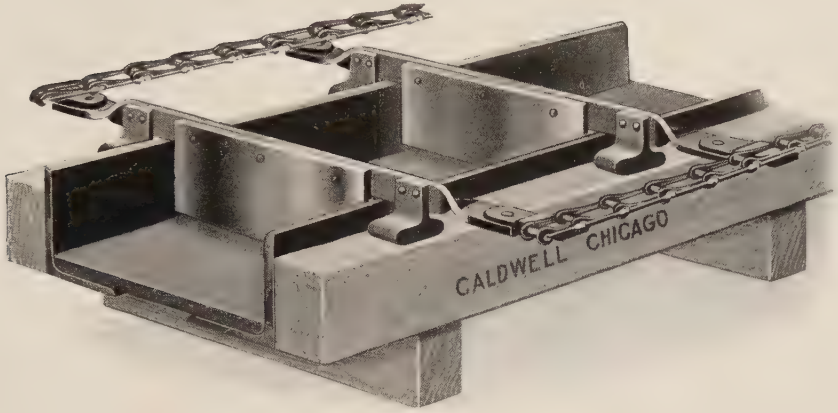


Fig. 45375. (*Ambushment*)

For heavier work, steel flights are used, with steel trough, and either with a double strand detachable chain, or with a heavier type of chain, such as Ice Chain and Steel Roller Chain. The flights are either supported by rollers on the chain, or have wearing shoes, as shown in Fig. 45375. The wearing shoes may run on maple wearing strips or on steel strip track.

On pages 292 and 293 are shown several styles of wood and steel framework for Flight Conveyors. We can furnish the conveyor complete with steel frame if desired.

Maple Flights

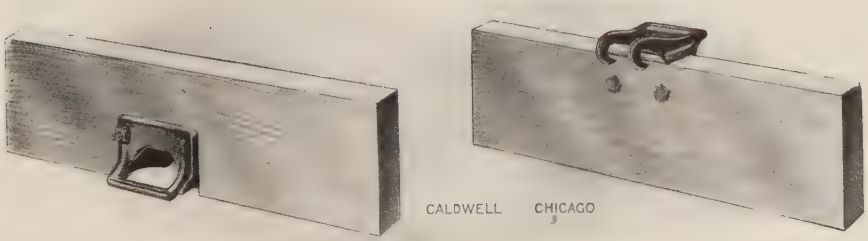


Fig. 45376. (*Landvogel*)
Style B.

For Upper or Double Run Conveyors

Fig. 45377. (*Landvogt*)
Style A.

For Lower Run Conveyors

Flight Conveyors with Wooden Framework

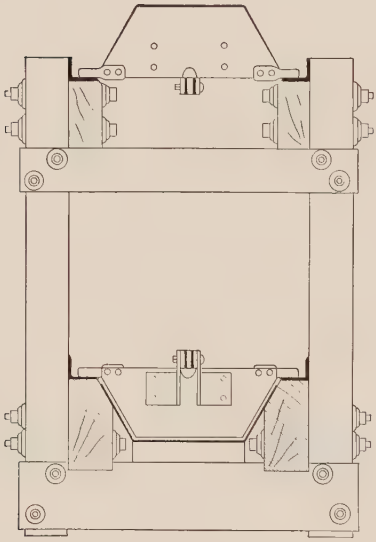


Fig. 45378. (*Lanicutis*)
With Wearing Shoes and Single Strand Steel Chain

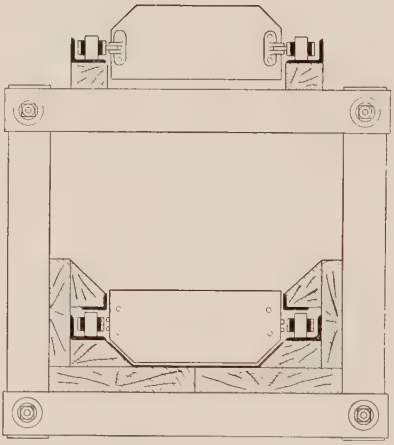


Fig. 45379. (*Lanielle*)
With Double Strand Roller Chain

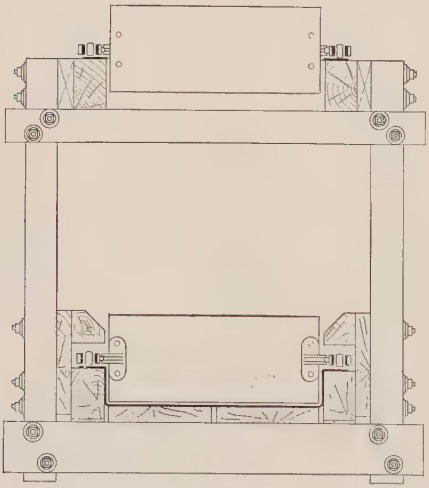


Fig. 45380. (*Lanienarn*)
With Double Strand Roller Chain

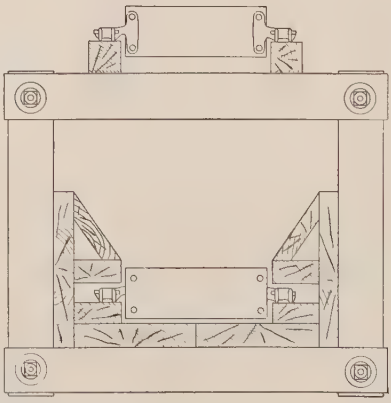


Fig. 45381. (*Laniferas*)
With Double Strand Chain, No Rollers

Wood Frames are generally built in the field by the purchaser of the conveyor. The designs shown above show a few types which have been used. If desired, we can furnish plans of the wood framework with the machinery.

Flight Conveyors with Steel Frames

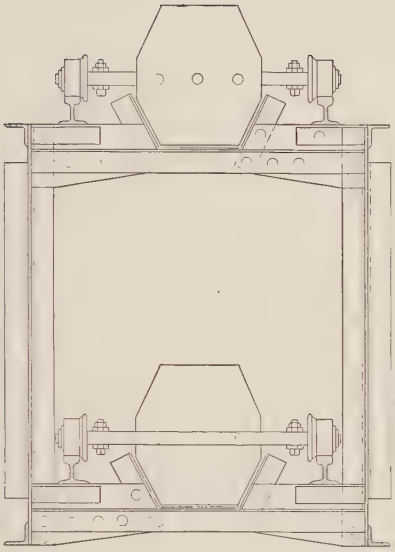


Fig. 45382. (*Lanifere*)

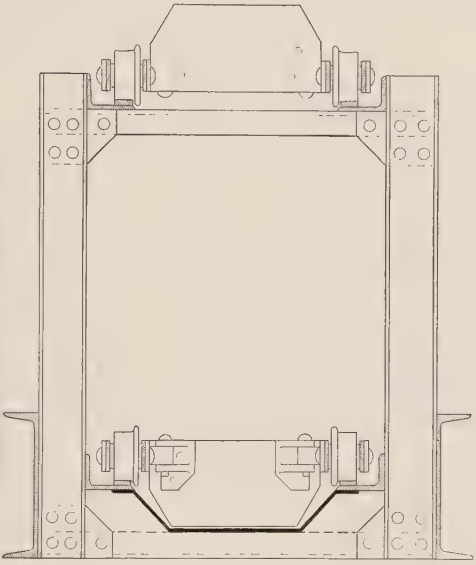


Fig. 45383. (*Lanifical*)

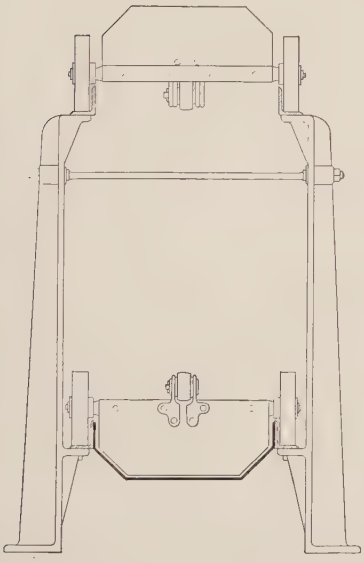


Fig. 45384. (*Lanificio*)
Cast Iron Supports

The designs on this page show a few types which we have made. We are prepared to furnish the necessary steel work for Flight Conveyors, and to submit estimates on the conveyors complete with frames.

Steel Flights for Flight Conveyor

Style A.
Fig. 45385. (*Limenean*)

Style B.
Fig. 45386. (*Limessilo*)

Style C.
Fig. 45387. (*Limestone*)

Steel Flights can be furnished either Rectangular, Style A, with corners cut off, Style B, or V shaped, Style C. The sizes named below are standard, but we can furnish flights of other sizes and of any shape required. Prices of special flights on application.

Price List, Subject to Discount

Length Inches	Width Inches	CODE WORD For Size	Price Each, and Code Word for Gauge			
			No. 12 (Lijnmeel)	No. 10 (Lijonga)	$\frac{3}{16}$-inch (Lineux)	$\frac{1}{4}$-inch (Linde)
10	4	Leugnung	$0.30	$0.40	$0.50	$0.65
10	5	Leukheid	.38	.50	.60	.80
12	4	Leukippos	.38	.50	.60	.80
12	5	Leukolla	.45	.60	.70	.95
15	5	Leukopetra	.60	.75	.90	1.20
18	6	Leummim	.85	1.10	1.30	1.70
18	8	Leumund	1.10	1.40	1.70	2.25
20	8	Leumundes	1.25	1.60	1.90	2.50
24	8	Leunculi	1.50	1.90	2.30	3.00
24	10	Leunculos	1.85	2.40	2.85	3.75

In telegraphing use code word for size and follow by code word for gauge required.

Butt Joint Steel Trough

Our standard trough for Flight Conveyors is of butt joint construction and is generally made in 10 foot lengths. Special sizes and thicknesses of trough can be made to order. Prices on application.

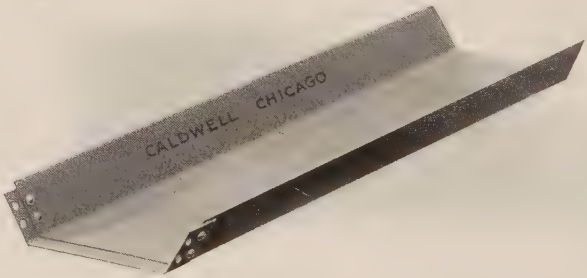


Fig. 45388. (*Limette*)

Price List, Subject to Discount

To Fit Flights Size	CODE WORD For Size	Price per Foot, and Code Word for Gauge			
		No. 10 (Limeurs)	$\frac{3}{16}$-inch (Limicole)	$\frac{1}{4}$-inch (Limicolis)	$\frac{3}{8}$-inch (Limiforme)
10 x 4	Leunculum	$2.30	$2.80	$3.60	$ 5.40
10 x 5	Leunende	2.75	3.25	4.20	6.20
12 x 4	Leunkussen	2.75	3.25	4.20	6.20
12 x 5	Leunmuur	3.00	3.60	4.60	6.80
15 x 5	Leunstoel	3.30	4.00	5.20	7.80
18 x 6	Leurachtig	3.90	4.70	6.20	9.20
18 x 8	Leurders	4.60	5.50	7.20	11.00
20 x 8	Leurkramer	5.00	5.90	7.65	11.50
24 x 8	Leurrait	5.40	6.30	8.25	12.50
24 x 10	Leutebrot	6.00	7.15	9.25	14.00

In telegraphing use code word for size of flights and follow by code word for gauge required.

Flight or Scraper Conveyors

The following formula will be found useful in estimating the horse-power of flight or scraper conveyors.

Greater horse-power should be allowed for short conveyors and in handling material more gritty in nature than coal.

$$\text{H. P.} = \frac{ATL+BWS}{1000}$$

Where T = Net tons of coal per hour.
Where L = Length center to center in feet.
Where W = Weight chain and flights, both runs, in pounds.
Where S = Speed in feet per minute.

A and B From Table Below

	INCLINATION OF CONVEYOR FROM HORIZONTAL									
	Horizontal	5°	10°	15°	20°	25°	30°	35°	40°	45°
A	0.343	0.42	0.50	0.585	0.66	0.73	0.79	0.85	0.90	0.945
B	0.01	0.01	0.01	0.01	0.009	0.009	0.009	0.008	0.008	0.007

Conveying Capacities of Flight Conveyors
in tons, (2000 lbs.) of coal per hour at 100 ft. per min.

Size of Flight	HORIZONTAL CONVEYOR SPACED			Wt. per Flight	INCLINED CONVEYOR		
	16 in.	18 in.	24 in.		10 deg. 24 in.	20 deg. 24 in.	30 deg. 24 in.
4 x 10	33.75	30	22.5	15	18	14.5	10.5
4 x 12	42.75	38	28.5	19	24	18	13.5
5 x 12	51.75	46	34.5	23	28.5	22.5	16.5
5 x 15	69.75	62	46.5	31	40.5	31.5	22.5
6 x 18	.....	80	60	40	49.5	40.5	31.5
8 x 18	.....	120	90	60	72	57	48
8 x 20	.....	...	105	70	84	66.5	56
8 x 24	.....	...	135	90	120	96	72
10 x 24	.....	...	172.5	115	150	120	90

Conveying Capacities of Flight Conveyors in Cubic Feet per Minute

Size of Flight	HORIZONTAL CONVEYOR SPACED			INCLINED CONVEYOR		
	16 in.	18 in.	24 in.	10 deg. 24 in.	20 deg. 24 in.	30 deg. 24 in.
4 x 10	20.8	18.5	13.85	11.1	8.8	6.5
4 x 12	26.3	23.4	17.5	14.8	11.1	8.3
5 x 12	31.9	28.3	21.25	17.5	13.8	10.2
5 x 15	43.0	38.3	28.6	25	19.4	13.8
6 x 18	....	49.3	37.0	30.5	24.9	19.4
8 x 18	....	74.0	55.4	44.4	35.1	29.6
8 x 20	....	. .	64.5	51.8	41	34.5
8 x 24	....	....	83.2	74	59.1	44.4
10 x 24		..	106	92.5	74	55.4

Steel Cable Conveyors

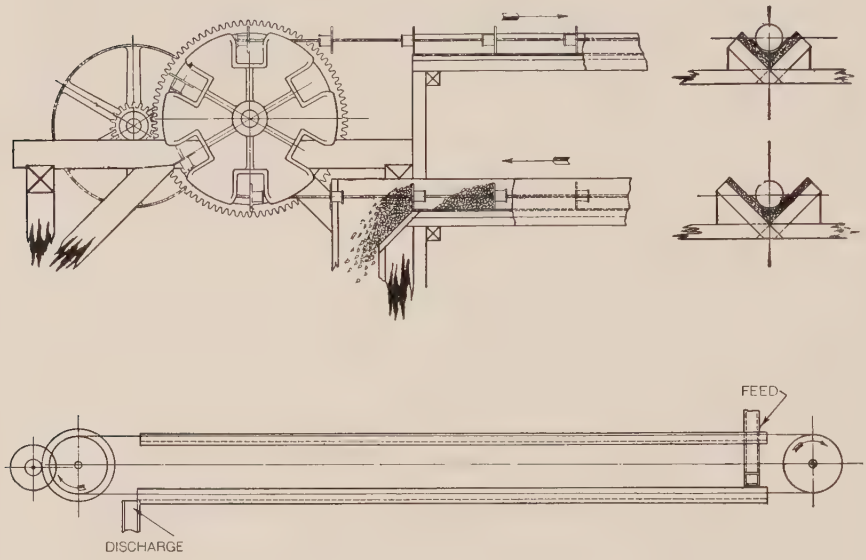


Fig. 45389.

Steel Cable Conveyors are used extensively for handling saw mill refuse, pulp wood, chips, shavings and to some extent for the handling of coal and heavier materials. They consist of a wire rope, generally of the six strand, seven wire per strand construction on which are clamped split discs, which both serve as pushers for the material and fit into gaps in the driving sprocket or gap wheel. The discs must be very accurately spaced so that they will operate smoothly over the gap wheels.

We will be pleased to design and name prices on Cable Conveyors upon receipt of the necessary information for figuring. Inquiries should specify:

(1) The kind of material and size of pieces.

(2) Quantity to be carried per hour.

(3) Distance to be conveyed.

(4) Whether conveyor is level or inclined. If inclined, send sketch showing dimensions of inclined portion.

(5) What kind of power is available? If electric, state voltage and whether alternating or direct current, and the number of cycles and phases if alternating current.

Troughs for Cable Conveyors

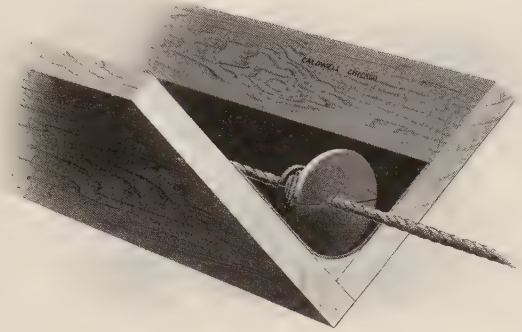


Fig. 45390. (*Larderemmo*)

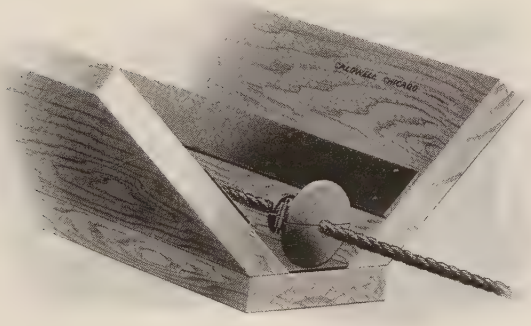
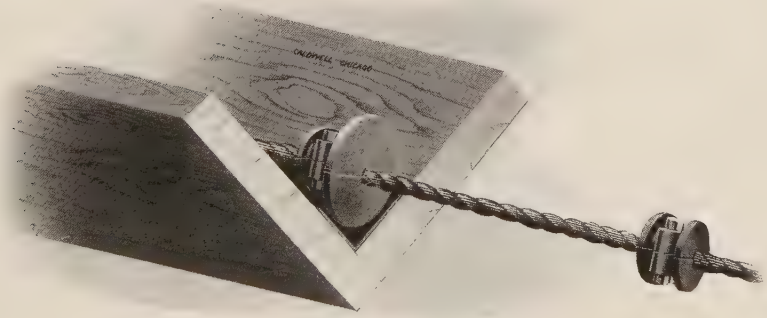


Fig. 45391. (*Larderasse*)



45392. (*Lardello*)

Troughs for steel cable conveyors are generally made of wood, lined with steel, as shown above. The joints in the lining should either be butt joints, or the laps should be made so that the material will run off the lap. Screw holes must be countersunk. Prices on lining named upon application.

Conveying Flights or Clamps—F-5

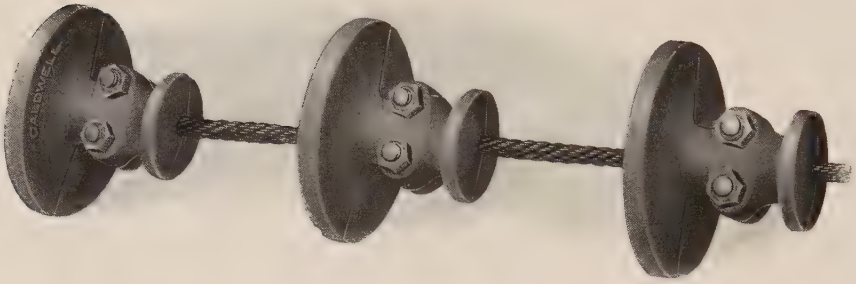


Fig. 45393. (*Landvolk*)

The F-5½ attachment is similar to the F-5 but has four bolts in place of two.

Conveying Clamps F-5 with Alternate Transmission Clamps F-1

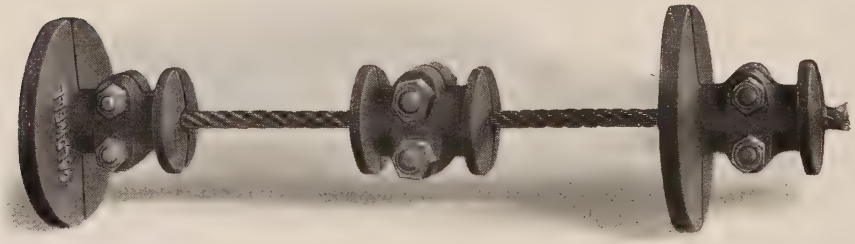


Fig. 45394. (*Landvolkes*)

The conveying discs can be alternated with transmission clamps, which receive the power of the gap wheel, but are not large enough in diameter to interfere with long pieces of wood being carried in the conveyor.

Transmission Clamps—F-1

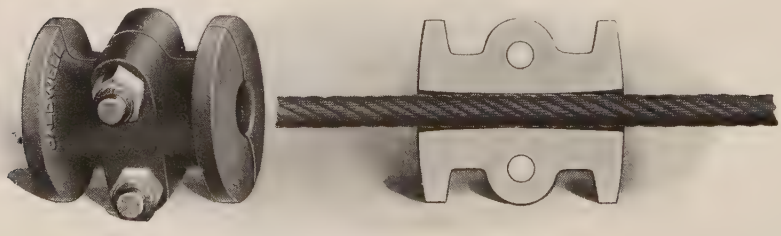


Fig. 45395. (*Lammzeit*)

The F-1½ attachment is similar to the F-1 but has four bolts in place of two.

Steel Cable Conveyor Attachments

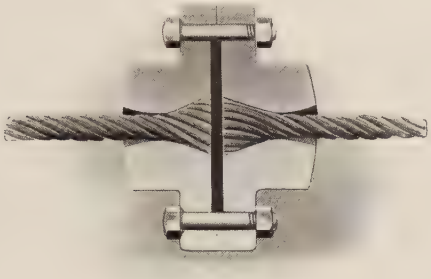


Fig. 45396. (*Amendatory*)

The two ends of the cable are joined together by a coupling clamp, as shown in Fig. 45396. The end of the cable is spread apart in this clamp and filled with spelter. The two halves of the clamp are drawn together with bolts.

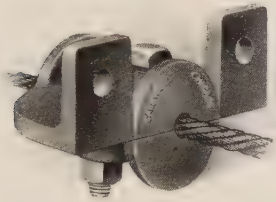


Fig. 45397. (*Lanugem*)
F-2 Attachment

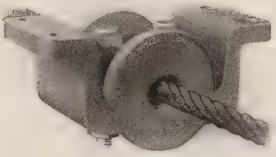


Fig. 45398. (*Ampulamur*)
K-2 Attachment

F2 attachments are used with wood flights in carrying refuse, etc.; K2 attachments are also used for flights. The cable and lower half of the attachment generally run in a groove below the level of the trough itself, with these attachments.

Price List, Subject to Discount

Style of Attachment	CODE WORD for Style	Diameter of Rope, Inches; and Code Word for Size of Rope						
		⅜″ Lans- riem	½″ Lans- ruiter	⅝″ Lans- slang	¾″ Lans- steek	⅞″ Lans- visch	1″ Lans- vormig	1⅛″ Lans- worp
F-1	Lantane	$1.65	$1.85	$2.05	$2.35	$2.80	$3.30	....
F-1½	Lantanium	....	....	....	....	3.60	4.10	$4.50
F-2	Lantcha	1.80	2.10	2.70	3.30	....	....	....
K-2	Lantejoula	....	2.25	3.00	3.75	4.50	....	....
Coupling Clamp	Lanterloo	2.50	3.30	4.10	5.00	6.00	7.25	8.50
F-5, 4″ diameter	Lanternaio	1.50	1.65	....	....	....	....	....
F-5, 5″ diameter	Lanternant	1.65	1.80	....	....	....	....	....
F-5, 6″ diameter	Lanternava	1.80	1.95	2.10	2.40	2.70	3.10	3.60
F-5, 7″ diameter	Lanterne	....	2.10	2.25	2.55	2.85	3.25	3.75
F-5, 8″ diameter	Lanterning	....	2.25	2.40	2.70	3.00	3.50	4.15
F-5½, 10″ diameter	Lanternois	....	....	3.00	3.50	4.00	4.60	5.50
F-5½, 12″ diameter	Lanternon	....	....	....	....	....	6.00	7.00

Solid Rim Gap Wheels

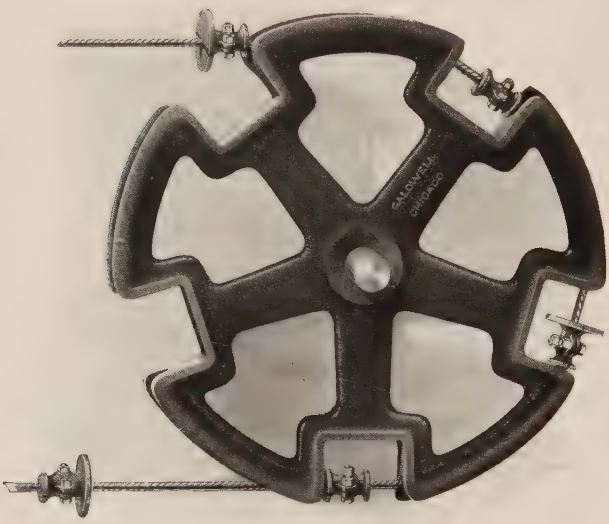


Fig. 45399. (*Landvorst*)

Price List, Subject to Discount

Diameter, Inches	No. Gaps	Pitch, Inches	Price	CODE WORD
		Sheaves for 3/8 in. and 1/2 in. Cable.		
24	3	24	$ 33.00	Amerolla
24	4	18	36.00	Amestris
31	4	24	54.00	Ametrope
31	8	12	65.00	Amette
35	3	36	60.00	Amevas
		Sheaves for 5/8 in. and 3/4 in. Cable.		
25	3	26	$ 35.00	Moharilla
31	8	12	57.00	Amherst
31	4	24	54.00	Ameflexos
33 3/4	4	26	55.00	Mohatrones
34 3/4	6	18	80.00	Mohiemto
35	3	36	75.00	Amicos
38	5	24	90.00	Moinante
46	4	36	120.00	Amicosae
46	6	24	165.00	Amictico
58	6	30	225.00	Moinillon
58	5	36	260.00	Moirirung
		Sheaves for 7/8 in. and 1 in. Cable.		
60	5	36	$300.00	Limitammo

Special Cable Conveyor Wire Rope

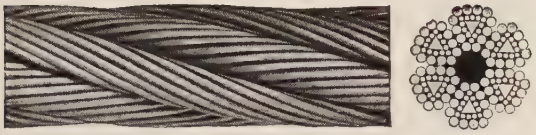


Fig. 45400. (*Lijnolie*)

Wire Rope of the ordinary construction sometimes causes trouble in long conveyors by twisting and rotating. The Special Wire Rope shown above has the wires in every other strand laid in different directions, which eliminates the twisting and rotating. The keystone shape of the strands prevents them from straightening out, so that the rope is also non-stretching.

Special Cable Conveyor Wire Rope is furnished in two grades, Extra Grade Steel, and Cast Steel. The center is usually furnished of hemp, but for very heavy work the rope can be made with wire center at additional charge.

The flattened strand construction gives greatly increased wearing surface as compared with the ordinary round strand rope.

Price List, Subject to Discount

Diameter, Inches	"Extra Grade Rope"		"Cast Steel Rope"		Weight Lbs. per Foot. Hemp Center
	Price per Foot	Code Word	Price per Foot	Code Word	
½	$0.17½	Leuterbol	$0.14½	Levabilium	.45
9/16	.19½	Leuterende	.16½	Levaderos	.58
5/8	.22½	Leuterkous	.18¼	Levadoura	.72
¾	.30	Leuterwerk	.24	Levaduras	1.00
⅞	.38	Leutestube	.30	Levaldina	1.38
1	.48	Leuthaus	.39½	Levaminum	1.80
1⅛	.59	Leuthlohn	.50	Levant	2.30
1¼	.70	Leutselig	.59½	Levantadas	2.80
1⅜	.90	Levabile	.73	Levantado	3.45
1½	1.05	Levabilis	.86	Levantar	4.00

Machine Molded Cast Iron Pulleys

Solid Cast Iron Pulley
Fig. 45401. (*Landvrucht*)

The Machine Molded Cast Iron Pulley is strong, true and of better proportions than any other type of pulley. We have a very complete equipment of pulley molding machines, and our pulleys are of ample weight, and carefully finished.

The price lists on the following pages cover Standard Transmission Pulleys, such as are used on line shafts, as driven pulleys on machinery, head and foot pulleys for conveyors and elevators and for similar service. Pulleys which are to be used on motors and generators, pulleys to run at unusually high speeds, and pulleys to be used with triple belt or with very heavy drives in connection with heavy belt tighteners, should be specially designed for the service they are to have, and are generally somewhat heavier and more expensive than the standard transmission pulley.

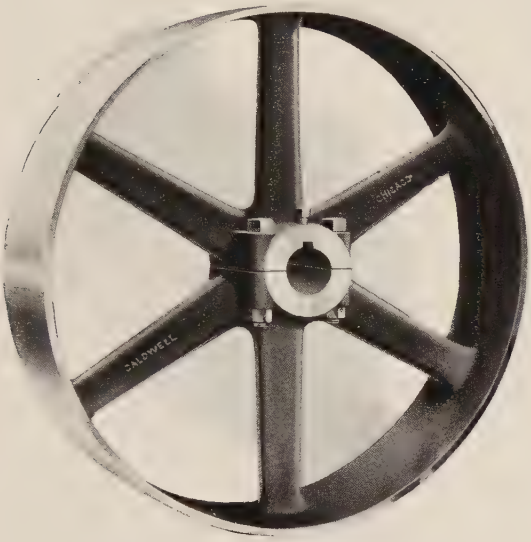
We will be glad to quote prices on any special pulleys, or upon band wheels and fly wheels, upon receipt of information as to the service they are to perform.

When ordering pulleys, be sure to specify:

(1) Diameter.
(2) Width of Face.
(3) Diameter of Shaft.
(4) Crown Face or Straight Face? See below.
(5) Single or Double Belt?
(6) Keyseated, Set Screwed, or both? Give width and depth of keyseats. Is keyseat straight or taper?

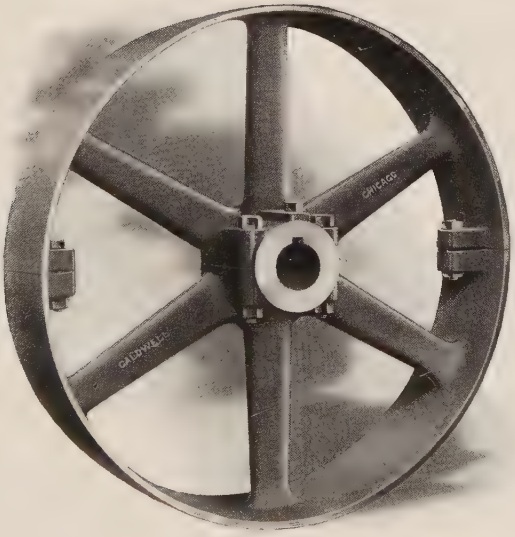
All pulleys should have crown faces, except drive pulleys for shifting belts. Crown face pulleys for double belts will be sent unless otherwise specified.

Machine Molded Cast Iron Pulleys



Solid Cast Iron Pulley With Clamp Hub

Fig. 45402. (*Lardava*)



Split Cast Iron Pulley

Fig. 45403. (*Landwaartz*)

Where pulleys are to run at a high speed be sure to specify the speed, so that the pulley may be specially balanced. Solid pulleys of standard construction, when specially balanced, can be run safely at a rim speed of 5,200 feet per minute. Split pulleys of standard construction and specially balanced can be safely run at a rim speed of 4,500 feet per minute.

Clamp Hub Pulleys take the same list prices as Split Pulleys.

An extra charge will be made where pulleys are both keyseated and set screwed.

Machine Molded Pulleys

Bored, Turned and Balanced, with Set Screws or Key Seats

Diameter, Inches	Face, Inches	SOLID Single Belt	SOLID Double Belt	SOLID Double Arm, Double Belt	SPLIT Single Belt	SPLIT Double Belt	SPLIT Double Arm, Double Belt
6	3	4.20	4.40	.....	8.40	8.60	.....
	4	4.60	4.80	.....	9.20	9.40	.....
	5	5.00	5.20	.....	9.80	10.00	.....
	6	5.50	5.70	.....	10.40	10.60	.....
Largest Bore at $1\frac{15}{16}''$ Regular Price	7	6.00	6.30	.....	11.30	11.60	.....
	8	6.70	7.00	.....	12.60	12.90	.....
	9	.....	7.80	.....	.....	14.30	.....
	10	.....	8.60	.....	.....	16.00	.....
	11	.....	9.40	.....	.....	18.00	.....
	12	.....	10.20	.....	.....	20.00	.....
7	3	4.50	4.70	.....	8.60	8.80	.....
	4	5.00	5.20	.....	9.50	9.70	.....
	5	5.50	5.70	.....	10.20	10.40	.....
	6	5.90	6.20	.....	10.80	11.10	.....
Largest Bore at $1\frac{15}{16}''$ Regular Price	7	6.50	6.80	.....	11.80	12.10	.....
	8	7.20	7.50	.....	13.10	13.40	.....
	9	.....	8.30	.....	.....	14.80	.....
	10	.....	9.10	.....	.....	16.50	.....
	11	.....	9.90	.....	.....	18.50	.....
	12	.....	10.70	.....	.....	20.50	.....
8	3	4.80	5.00	.....	8.80	9.00	.....
	4	5.30	5.50	.....	9.80	10.00	.....
	5	5.70	6.00	.....	10.60	10.90	.....
	6	6.30	6.60	.....	11.40	11.70	.....
Largest Bore at $1\frac{15}{16}''$ Regular Price	7	7.00	7.30	.....	12.40	12.70	.....
	8	7.70	8.00	.....	13.70	14.00	.....
	9	.....	8.70	.....	.....	15.40	.....
	10	.....	9.50	.....	.....	17.10	.....
	11	.....	10.50	.....	.....	19.10	.....
	12	.....	11.60	.....	.....	21.10	.....
	13	.....	12.90	.....	.....	23.10	.....
9	3	5.10	5.30	.....	9.00	9.20	.....
	4	5.60	5.80	.....	10.10	10.30	.....
	5	6.10	6.40	.....	11.00	11.30	.....
	6	6.70	7.00	.....	11.90	12.20	.....
Largest Bore at $1\frac{15}{16}''$ Regular Price	7	7.40	7.70	.....	13.00	13.30	.....
	8	8.10	8.50	.....	14.30	14.70	.....
	9	.....	9.40	.....	.....	16.20	.....
	10	.....	10.30	.....	.....	18.00	.....
	11	.....	11.30	.....	.....	20.00	.....
	12	.....	12.40	.....	.....	22.00	.....
	13	.....	13.50	.....	.....	24.00	.....
10	3	5.30	5.50	.....	9.20	9.40	.....
	4	6.00	6.30	.....	10.30	10.60	.....

Diameter, Inches	Face, Inches	SOLID Single Belt	SOLID Double Belt	SOLID Double Arm, Double Belt	SPLIT Single Belt	SPLIT Double Belt	SPLIT Double Arm, Double Belt
10	5	6.70	7.00	.....	11.30	11.60	.....
	6	7.20	7.60	.....	12.20	12.60	.....
	7	7.90	8.30	.....	13.30	13.80	.....
	8	8.70	9.10	.....	14.90	15.30	.....
Largest Bore at $2\frac{7}{16}''$ Regular Price	9	.....	10.00	.....	.....	16.90	.....
	10	.....	11.00	.....	.....	18.90	.....
	11	.....	12.00	.....	.....	20.90	.....
	12	.....	13.10	.....	.....	22.90	.....
	13	.....	14.20	.....	.....	24.90	.....
11	3	5.40	5.70	.....	9.30	9.60	.....
	4	6.30	6.60	.....	10.50	10.80	.....
	5	7.00	7.40	.....	11.40	11.80	.....
	6	7.70	8.10	.....	12.50	12.90	.....
Largest Bore at $2\frac{7}{16}''$ Regular Price	7	8.30	8.80	.....	13.60	14.10	.....
	8	9.10	9.60	.....	15.10	15.60	.....
	9	.....	10.50	.....	.....	17.20	.....
	10	.....	11.50	.....	.....	19.20	.....
	11	.....	12.60	.....	.....	21.20	.....
	12	.....	13.70	.....	.....	23.20	.....
	13	.....	14.80	.....	.....	25.20	.....
12	3	5.50	5.80	.....	9.50	9.80	.....
	4	6.40	6.70	.....	10.70	11.00	.....
	5	7.20	7.60	.....	11.60	12.00	.....
	6	8.00	8.40	.....	12.70	13.10	.....
Largest Bore at $2\frac{7}{16}''$ Regular Price	7	8.80	9.20	.....	13.90	14.30	.....
	8	9.60	10.00	.....	15.40	15.80	.....
	9	.....	11.00	.....	.....	17.50	.....
	10	.....	12.00	.....	.....	19.50	.....
	11	.....	13.10	.....	.....	21.50	.....
	12	.....	14.20	.....	.....	23.50	.....
	13	.....	15.30	.....	.....	25.50	.....
	14	.....	16.30	.....	.....	27.50	.....
	15	.....	17.30	.....	.....	29.50	.....
13	3	5.60	5.90	.....	9.70	10.00	.....
	4	6.50	6.90	.....	10.90	11.30	.....
	5	7.40	7.80	.....	11.90	12.30	.....
	6	8.20	8.70	.....	12.90	13.40	.....
Largest Bore at $2\frac{7}{16}''$ Regular Price	7	9.00	9.50	.....	14.10	14.60	.....
	8	10.00	10.50	.....	15.60	16.10	.....
	9	10.90	11.50	.....	17.20	17.80	.....
	10	.....	12.50	.....	.....	19.80	.....
	11	.....	13.60	.....	.....	21.80	.....
	12	.....	14.70	.....	.....	23.80	.....
	13	.....	15.80	.....	.....	25.80	.....
	14	.....	16.80	.....	.....	27.80	.....
	15	.....	17.80	.....	.....	29.80	.....

For extra charges for Large Bores, Tight and Loose Pulleys and Flanged Pulleys, see pages 324 to 326. Telegraph Code on page 323.

Machine Molded Pulleys—Continued

Largest Bore at Regular Price $2\frac{7}{16}$"

Diameter, Inches	Face, Inches	SOLID Single Belt	SOLID Double Belt	SOLID Double Arm, Double Belt	SPLIT Single Belt	SPLIT Double Belt	SPLIT Double Arm, Double Belt
14	3	5.70	6.00	.....	9.90	10.20	.....
	4	6.60	7.00	.....	11.10	11.50	.....
	5	7.50	8.00	.....	12.10	12.60	.....
	6	8.40	9.00	.....	13.10	13.70	.....
	7	9.40	10.00	.....	14.30	14.90	.....
	8	10.30	11.00	.....	15.70	16.40	.....
	9	11.30	12.00	.....	17.40	18.10	.....
	10	.....	13.00	.....	.....	20.10	.....
	11	.....	14.00	.....	.....	22.10	.....
	12	.....	15.10	.....	.....	24.10	.....
	13	.....	16.20	.....	.....	26.10	.....
	14	.....	17.20	.....	.....	28.10	.....
	15	.....	18.20	.....	.....	30.10	.....
15	3	5.80	6.10	.....	10.10	10.40	.....
	4	6.80	7.20	.....	11.30	11.70	.....
	5	7.70	8.20	.....	12.30	12.80	.....
	6	8.60	9.20	.....	13.40	14.00	.....
	7	9.70	10.30	.....	14.60	15.20	.....
	8	10.70	11.40	.....	16.00	16.70	.....
	9	11.70	12.40	.....	17.70	18.40	.....
	10	.....	13.40	.....	.....	20.40	.....
	11	.....	14.40	.....	.....	22.40	.....
	12	.....	15.50	.....	.....	24.40	.....
	13	.....	16.60	.....	.....	26.40	.....
	14	.....	17.60	.....	.....	28.40	.....
	15	.....	18.60	.....	.....	30.40	.....

Largest Bore at Regular Price $2\frac{15}{16}$"

Diameter, Inches	Face, Inches	SOLID Single Belt	SOLID Double Belt	SOLID Double Arm, Double Belt	SPLIT Single Belt	SPLIT Double Belt	SPLIT Double Arm, Double Belt
16	3	5.90	6.20	.....	10.30	10.60	.....
	4	6.90	7.40	.....	11.40	11.90	.....
	5	8.00	8.50	.....	12.60	13.10	.....
	6	9.10	9.60	.....	13.80	14.30	.....
	7	10.10	10.70	.....	14.90	15.50	.....
	8	11.10	11.80	.....	16.30	17.00	.....
	9	12.10	12.80	.....	18.00	18.70	.....
	10	.....	13.80	.....	.....	20.70	.....
	11	.....	14.80	.....	.....	22.70	.....
	12	.....	15.90	.....	.....	24.70	.....
	13	.....	17.00	.....	.....	26.70	.....
	14	.....	18.00	.....	.....	28.70	.....
	15	.....	19.00	.....	.....	30.70	.....
	16	.....	20.00	.....	.....	32.70	.....
	17	.....	21.10	.....	.....	34.70	.....
17	3	6.10	6.40	.....	10.50	10.80	.....
	4	7.20	7.70	.....	11.60	12.10	.....
	5	8.40	8.90	.....	13.90	13.40	.....
	6	9.40	10.00	.....	14.00	14.60	.....
	7	10.50	11.10	.....	15.20	15.80	.....
	8	11.50	12.20	.....	16.60	17.30	.....
	9	12.50	13.20	.....	18.30	19.00	.....
	10	.....	14.20	.....	.....	21.00	.....
	11	.....	15.20	.....	.....	23.00	.....
	12	.....	16.30	.....	.....	25.00	.....

Largest Bore at Regular Price $2\frac{15}{16}$"

Diameter, Inches	Face, Inches	SOLID Single Belt	SOLID Double Belt	SOLID Double Arm, Double Belt	SPLIT Single Belt	SPLIT Double Belt	SPLIT Double Arm, Double Belt
17	13	.....	17.40	.....	.....	27.00	.....
	14	.....	18.40	.....	.....	29 00	.....
	15	.....	19.40	.....	.....	31.00	.....
	16	.....	20.40	.....	.....	33.00	.....
	17	.....	21.50	.....	.....	35.00	.....
18	3	6.30	6.70	.....	10.60	11.00	.....
	4	7.60	8.60	.....	11.90	12.40	.....
	5	8.90	9.40	.....	13.20	13.70	.....
	6	9.90	10.60	.....	14.20	14.90	.....
	7	10.90	11.70	.....	15.30	16.10	.....
	8	11.90	12.70	.....	16.80	17.60	.....
	9	12.80	13.70	.....	18.40	19.30	.....
	10	.....	14.70	.....	.....	21.30	.....
	11	.....	15.70	.....	.....	23.30	.....
	12	.....	16.70	.....	.....	25.30	.....
	13	.....	17.80	.....	.....	27.30	.....
	14	.....	18.80	.....	.....	29.30	.....
	15	.....	19.80	.....	.....	31.30	.....
	16	.....	20.80	.....	.....	33.30	.....
	17	.....	21.90	.....	.....	35.30	.....
19	3	6.50	7.00	.....	10.70	11.20	.....
	4	7.90	8.50	.....	12.10	12.70	.....
	5	9.30	10.00	.....	13.30	14.00	.....
	6	10.40	11.20	.....	14.60	15.40	.....
	7	11.30	12.20	.....	15.50	16.40	.....
	8	12.20	13.20	.....	16.90	17.90	.....
	9	13.20	14.20	.....	18.60	19.60	.....
	10	.....	15.20	.....	.....	21.60	.....
	11	.....	16.20	.....	.....	23.60	.....
	12	.....	17.20	.....	.....	25.60	.....
	13	.....	18.20	.....	.....	27.60	.....
	14	.....	19.20	.....	.....	29.60	.....
	15	.....	20.20	.....	.....	31.60	.....
	16	.....	21.30	.....	.....	33.60	.....
	17	.....	22.40	.....	.....	35.70	.....
	18	.....	23.70	.....	.....	37.80	.....
	19	.....	25.00	.....	.....	39.90	.....
20	3	6.80	7.30	.....	10.90	11.40	.....
	4	8.20	8.80	.....	12.30	12.90	.....
	5	9.50	10.30	.....	13.50	14.30	.....
	6	10.50	11.50	.....	14.50	15.50	.....
	7	11.60	12.60	.....	15.70	16.70	.....
	8	12.50	13.60	.....	17.20	18.30	.....
	9	13.30	14.60	.....	18.80	20.10	.....
	10	14.20	15.60	.....	20.70	22.10	.....
	11	.....	16.60	.....	.....	24.10	.....
	12	.....	17.60	.....	.....	26.10	.....
	13	.....	18.60	.....	.....	28.10	.....
	14	.....	19.60	.....	.....	30.10	.....
	15	.....	20.60	.....	.....	32.10	.....

For extra charges for Large Bores, Tight and Loose Pulleys and Flanged Pulleys, see pages 324 to 326. Telegraph Code on page 323.

Machine Molded Pulleys—Continued

Diameter, Inches	Face, Inches	SOLID Single Belt	SOLID Double Belt	SOLID Double Arm, Double Belt	SPLIT Single Belt	SPLIT Double Belt	SPLIT Double Arm, Double Belt
20	16	.....	21.80	.....	.....	34.20	.....
	17	.....	23.00	.....	.....	36.30	.....
	18	.....	24.30	.....	.....	38.40	.....
	19	.....	25.70	.....	.....	40.50	.....
	20	.....	27.20	38.00	.....	42.60	55.00
	22	.....	30.20	41.00	.....	46.60	59.00
	24	.....	33.20	44.00	.....	50.60	63.00
	26	.....	.....	50.00	.....	.....	70.00
	28	.....	.....	56.50	.....	.....	77.00
21 Largest Bore at $3\frac{7}{16}''$ Regular Price	3	7.00	7.60	.....	11.10	11.70	.....
	4	8.40	9.10	.....	12.50	13.20	.....
	5	9.80	10.60	.....	13.90	14.70	.....
	6	10.80	11.80	.....	14.90	15.90	.....
	7	11.80	13.00	.....	16.00	17.20	.....
	8	12.80	14.10	.....	17.60	18.90	.....
	9	13.80	15.20	.....	19.40	20.80	.....
	10	14.80	16.30	.....	21.30	22.80	.....
	11	.....	17.40	.....	.....	24.80	.....
	12	.....	18.50	.....	.....	26.80	.....
	13	.....	19.50	.....	.....	28.80	.....
	14	.....	20.50	.....	.....	30.80	.....
	15	.....	21.60	.....	.....	32.90	.....
	16	.....	22.80	.....	.....	35.00	.....
	17	.....	24.10	.....	.....	37.10	.....
	18	.....	25.40	.....	.....	39.20	.....
	19	.....	26.80	.....	.....	41.50	.....
	20	.....	28.30	40.00	.....	43.80	56.80
	22	.....	31.30	43.00	.....	47.90	60.90
	24	.....	34.30	46.00	.....	52.00	65.00
	26	.....	.....	52.00	.....	.....	72.00
	28	.....	.....	58.50	.....	.....	79.00
22 Largest Bore at $3\frac{7}{16}''$ Regular Price	3	7.30	7.90	.....	11.50	12.10	.....
	4	8.60	9.40	.....	12.90	13.70	.....
	5	10.00	10.90	.....	14.30	15.20	.....
	6	11.20	12.20	.....	15.40	16.40	.....
	7	12.30	13.50	.....	16.60	17.80	.....
	8	13.30	14.70	.....	18.20	19.60	.....
	9	14.40	15.90	.....	20.10	21.60	.....
	10	15.50	17.10	.....	22.00	23.60	.....
	11	.....	18.20	.....	.....	25.60	.....
	12	.....	19.30	.....	.....	27.60	.....
	13	.....	20.40	.....	.....	29.60	.....
	14	.....	21.50	.....	.....	31.70	.....
	15	.....	22.60	.....	.....	33.80	.....
	16	.....	23.90	.....	.....	35.90	.....
	17	.....	25.30	.....	.....	38.00	.....
	18	.....	26.70	.....	.....	40.20	.....
	19	.....	28.20	.....	.....	42.50	.....
	20	.....	29.80	42.10	.....	44.80	58.30
	21	.....	31.40	.....	.....	47.10	.....
22	22	.....	33.00	45.30	.....	49.50	63.00
	24	.....	36.20	48.50	.....	53.50	67.00
	26	.....	.....	54.50	.....	.....	74.00
	28	.....	.....	61.00	.....	.....	81.00
	30	.....	.....	67.00	.....	.....	88.00
23 Largest Bore at $3\frac{7}{16}''$ Regular Price	3	7.50	8.20	.....	11.90	12.60	.....
	4	8.90	9.70	.....	13.50	14.30	.....
	5	10.20	11.20	.....	14.80	15.80	.....
	6	11.50	12.60	.....	15.90	17.00	.....
	7	12.60	13.90	.....	17.20	18.50	.....
	8	13.80	15.20	.....	19.10	20.50	.....
	9	14.90	16.50	.....	20.90	22.50	.....
	10	16.00	17.70	.....	22.80	24.50	.....
	11	.....	18.90	.....	.....	26.50	.....
	12	.....	20.00	.....	.....	28.50	.....
	13	.....	21.10	.....	.....	30.60	.....
	14	.....	22.20	.....	.....	32.70	.....
	15	.....	23.40	.....	.....	34.80	.....
	16	.....	24.70	.....	.....	36.90	.....
	17	.....	26.20	.....	.....	39.00	.....
	18	.....	27.80	.....	.....	41.20	.....
	19	.....	29.50	.....	.....	43.50	.....
	20	.....	31.30	43.50	.....	45.80	59.80
	21	.....	33.20	.....	.....	48.10	.....
	22	.....	35.00	47.30	.....	50.50	64.50
	24	.....	39.00	51.00	.....	55.00	69.00
	26	.....	.....	57.00	.....	.....	76.00
	28	.....	.....	63.50	.....	.....	83.00
	30	.....	.....	69.50	.....	.....	90.00
24 Largest Bore at $3\frac{7}{16}''$ Regular Price	3	7.80	8.50	.....	12.40	13.10	.....
	4	9.10	10.00	.....	13.80	14.70	.....
	5	10.50	11.50	.....	15.20	16.20	.....
	6	11.80	13.00	.....	16.50	17.70	.....
	7	13.10	14.40	.....	18.40	19.70	.....
	8	14.20	15.70	.....	20.20	21.70	.....
	9	15.30	17.00	.....	22.00	23.70	.....
	10	16.40	18.30	.....	23.80	25.70	.....
	11	.....	19.60	.....	.....	27.70	.....
	12	.....	20.80	.....	.....	29.70	.....
	13	.....	21.90	.....	.....	31.80	.....
	14	.....	23.00	.....	.....	33.90	.....
	15	.....	24.20	.....	.....	36.00	.....
	16	.....	25.60	.....	.....	38.10	.....
	17	.....	27.20	.....	.....	40.20	.....
	18	.....	29.00	.....	.....	42.40	.....
	19	.....	30.80	.....	.....	44.70	.....
	20	.....	32.70	45.20	.....	47.00	62.00
	21	.....	34.70	.....	.....	49.50	.....
	22	.....	36.80	49.30	.....	52.00	67.00
	24	.....	41.00	53.50	.....	57.00	72.00

For extra charges for Large Bores, Tight and Loose Pulleys and Flanged Pulleys, see pages 324 to 326. Telegraph Code on page 323.

Machine Molded Pulleys—Continued

Largest Bore at Regular Price 3 7/16"

Diameter, Inches	Face, Inches	SOLID Single Belt	SOLID Double Belt	SOLID Double Arm, Double Belt	SPLIT Single Belt	SPLIT Double Belt	SPLIT Double Arm, Double Belt
24	26			59.50			79.00
	28			66.00			86.00
	30			72.00			93.00
25	3	8.10	8.80		12.90	13.60	
	4	9.50	10.40		14.40	15.30	
	5	10.80	11.90		15.70	16.80	
	6	12.10	13.40		17.40	18.70	
	7	13.40	14.80		19.30	20.70	
	8	14.60	16.20		21.10	22.70	
	9	15.80	17.60		22.90	24.70	
	10	17.00	19.00		24.70	26.70	
	11		20.30			28.80	
	12		21.50			30.90	
	13		22.60			33.00	
	14		23.80			35.20	
	15		25.10			37.40	
	16		26.60			39.60	
	17		28.20			41.70	
	18		30.10			44.00	
	19		32.00			46.50	
	20		34.10	46.70		49.00	64.00
	21		36.20			51.50	
	22		38.60	51.20		54.00	69.00
	24		43.40	56.00		60.00	75.00
	26			62.00			82.00
	28			68.50			89.00
	30			75.00			96.00
26	3	8.50	9.30		13.30	14.10	
	4	9.90	10.90		14.90	15.90	
	5	11.40	12.50		16.50	17.60	
	6	12.70	14.00		18.30	19.60	
	7	14.00	15.50		20.10	21.60	
	8	15.30	17.00		22.00	23.70	
	9	16.70	18.50		24.00	25.80	
	10	17.80	19.90		26.00	27.90	
	11		21.20			30.00	
	12		22.40			32.10	
	13		23.60			34.20	
	14		24.90			36.50	
	15		26.30			38.80	
	16		28.00			41.10	
	17		29.80			43.30	
	18		31.80			45.70	
	19		33.90			48.20	
	20		36.10	49.60		50.70	65.00
	21		38.30			53.70	
	22		40.50	54.00		56.70	70.00
	24		45.00	58.50		62.70	76.00
	26			64.50			84.00
	28			71.00			92.00
	30			78.00			100.00

Largest Bore at Regular Price 3 7/16"

Diameter, Inches	Face, Inches	SOLID Single Belt	SOLID Double Belt	SOLID Double Arm, Double Belt	SPLIT Single Belt	SPLIT Double Belt	SPLIT Double Arm, Double Belt
27	3	9.00	9.80		13.80	14.60	
	4	10.40	11.40		15.60	16.60	
	5	11.80	13.00		17.20	18.40	
	6	13.20	14.60		19.10	20.50	
	7	14.60	16.20		21.00	22.60	
	8	15.90	17.70		22.90	24.70	
	9	17.20	19.20		24.80	26.80	
	10	18.50	20.70		26.80	29.00	
	11	19.90	22.10		29.00	31.20	
	12		23.30			33.40	
	13		24.60			35.60	
	14		26.00			37.90	
	15		27.50			40.20	
	16		29.30			42.50	
	17		31.20			45.00	
	18		33.30			47.60	
	19		35.70			50.40	
	20		38.10	52.00		53.40	68.00
	21		40.50			56.40	
	22		42.90	56.50		59.40	74.00
	24		47.00	61.00		65.50	80.00
	26			67.00			88.00
	28			73.50			96.00
	30			81.00			105.00
28	3	9.40	10.30		14.20	15.10	
	4	10.90	12.00		16.00	17.10	
	5	12.40	13.70		17.90	19.20	
	6	13.90	15.40		19.80	21.30	
	7	15.40	17.10		21.70	23.40	
	8	16.80	18.70		23.70	25.60	
	9	18.30	20.30		25.80	27.80	
	10	19.70	21.90		27.80	30.00	
	11	21.10	23.40		30.10	32.40	
	12		24.70			34.80	
	13		26.10			37.20	
	14		27.70			39.60	
	15		29.40			42.00	
	16		31.40			44.50	
	17		33.50			47.00	
	18		35.80			49.60	
	19		38.20			52.50	
	20		40.60	54.50		55.50	70.00
	21		43.00			58.50	
	22		45.40	59.00		61.50	76.00
	24		50.00	63.50		67.50	82.00
	26			69.50			90.00
	28			76.00			98.00
	30			84.00			108.00
	32			90.00			118.00
29	3	9.90	10.80		14.90	15.80	
	4	11.40	12.60		17.00	18.20	

For extra charges for Large Bores, Tight and Loose Pulleys and Flanged Pulleys, see pages 324 to 326. Telegraph Code on page 323.

Machine Molded Pulleys—Continued

Diameter, Inches	Face, Inches	SOLID Single Belt	SOLID Double Belt	SOLID Double Arm, Double Belt	SPLIT Single Belt	SPLIT Double Belt	SPLIT Double Arm, Double Belt
29 Largest Bore at Regular Price $3\frac{7}{16}$"	5	13.00	14.40	.....	19.00	20.40	.....
	6	14.60	16.20	.....	20.80	22.40	.....
	7	16.20	18.00	.....	23.00	24.80	.....
	8	17.70	19.70	.....	25.20	27.20	.....
	9	19.20	21.40	.....	27.40	29.60	.....
	10	20.80	23.10	.....	29.70	32.00	.....
	11	22.20	24.70	.....	31.90	34.40	.....
	12	.....	26.10	.....	.....	36.80	.....
	13	.....	27.60	.....	.....	39.20	.....
	14	.....	29.20	.....	.....	41.60	.....
	15	.....	30.90	.....	.....	44.00	.....
	16	.....	33.00	.....	.....	46.50	.....
	17	.....	35.20	.....	.....	49.00	.....
	18	.....	37.60	.....	.....	51.60	.....
	19	.....	40.00	.....	.....	54.50	.....
	20	.....	42.40	56.00	.....	57.50	72.00
	21	.....	44.80	.....	.....	60.50	.....
	22	.....	47.20	60.70	.....	63.50	78.00
	23	.....	49.60	.....	.....	66.50	.....
	24	.....	52.00	65.50	.....	69.50	84.00
	26	.....	.....	72.00	.....	.....	92.00
	28	.....	.....	78.50	.....	.....	100.00
	30	.....	.....	87.00	.....	.....	110.00
	32	.....	.....	94.00	.....	.....	120.00
30 Largest Bore at Regular Price $3\frac{7}{16}$"	3	10.30	11.30	.....	15.30	16.30	.....
	4	11.90	13.10	.....	17.60	18.80	.....
	5	13.40	14.90	.....	19.50	21.00	.....
	6	15.00	16.70	.....	21.30	23.00	.....
	7	16.60	18.50	.....	23.60	25.50	.....
	8	18.20	20.30	.....	25.90	28.00	.....
	9	19.80	22.10	.....	28.20	30.50	.....
	10	21.40	23.80	.....	30.60	33.00	.....
	11	22.90	25.50	.....	33.00	35.60	.....
	12	.....	27.00	.....	.....	38.20	.....
	13	.....	28.60	.....	.....	41.00	.....
	14	.....	30.20	.....	.....	43.60	.....
	15	.....	31.90	.....	.....	46.00	.....
	16	.....	34.00	.....	.....	48.50	.....
	17	.....	36.20	.....	.....	51.00	.....
	18	.....	38.70	.....	.....	53.60	.....
	19	.....	41.20	.....	.....	56.50	.....
	20	.....	43.70	58.50	.....	59.50	74.00
	21	.....	46.20	.....	.....	62.50	.....
	22	.....	48.70	63.50	.....	65.50	80.00
	23	.....	51.20	.....	.....	68.50	.....
	24	.....	53.70	68.50	.....	71.50	86.00
	26	.....	.....	74.50	.....	.....	95.00
	28	.....	.....	80.50	.....	.....	104.00
	30	.....	.....	90.00	.....	.....	114.00
	32	.....	.....	97.50	.....	.....	124.00
	34	.....	.....	107.00	.....	.....	136.00
31 Largest Bore at Regular Price $3\frac{15}{16}$"	3	10.80	11.80	.....	15.80	16.80	.....
	4	12.40	13.70	.....	18.10	19.40	.....
	5	14.10	15.60	.....	20.30	21.80	.....
	6	15.80	17.50	.....	22.30	24.00	.....
	7	17.50	19.40	.....	24.60	26.50	.....
	8	19.00	21.20	.....	26.80	29.00	.....
	9	20.60	23.00	.....	29.10	31.50	.....
	10	22.20	24.80	.....	31.50	34.10	.....
	11	23.80	26.50	.....	34.30	37.00	.....
	12	.....	28.00	.....	.....	39.70	.....
	13	.....	29.60	.....	.....	42.50	.....
	14	.....	31.30	.....	.....	45.00	.....
	15	.....	33.10	.....	.....	47.50	.....
	16	.....	35.30	.....	.....	50.00	.....
	17	.....	37.90	.....	.....	53.00	.....
	18	.....	40.40	.....	.....	56.00	.....
	19	.....	42.90	.....	.....	59.00	.....
	20	.....	45.40	60.00	.....	62.00	76.00
	21	.....	47.90	.....	.....	65.00	.....
	22	.....	50.40	65.00	.....	68.00	82.00
	23	.....	52.90	.....	.....	71.00	.....
	24	.....	55.40	70.00	.....	74.00	88.00
	26	.....	.....	77.00	.....	.....	98.00
	28	.....	.....	84.00	.....	.....	108.00
	30	.....	.....	93.50	.....	.....	118.00
	32	.....	.....	102.00	.....	.....	128.00
	34	.....	.....	112.00	.....	.....	140.00
32 Largest Bore at Regular Price $3\frac{15}{16}$"	3	11.20	12.30	.....	16.20	17.30	.....
	4	13.00	14.30	.....	18.70	20.00	.....
	5	14.70	16.30	.....	21.00	22.60	.....
	6	16.50	18.30	.....	23.20	25.00	.....
	7	18.30	20.30	.....	25.50	27.50	.....
	8	19.90	22.20	.....	27.70	30.00	.....
	9	21.60	24.10	.....	30.00	32.50	.....
	10	23.30	26.00	.....	32.50	35.20	.....
	11	24.90	27.80	.....	35.10	38.00	.....
	12	.....	29.40	.....	.....	40.70	.....
	13	.....	31.10	.....	.....	43.50	.....
	14	.....	32.90	.....	.....	46.20	.....
	15	.....	34.80	.....	.....	49.00	.....
	16	.....	37.10	.....	.....	52.00	.....
	17	.....	39.70	.....	.....	55.50	.....
	18	.....	42.30	.....	.....	59.00	.....
	19	.....	45.00	.....	.....	62.00	.....
	20	.....	47.60	63.00	.....	65.00	80.00
	21	.....	50.20	.....	.....	68.00	.....
	22	.....	52.80	68.00	.....	71.00	86.00
	23	.....	55.40	.....	.....	74.00	.....
	24	.....	58.00	73.00	.....	77.00	92.00
	26	.....	.....	80.50	.....	.....	102.00
	28	.....	.....	88.00	.....	.....	112.00

For extra charges for Large Bores, Tight and Loose Pulleys and Flanged Pulleys, see pages 324 to 326. Telegraph Code on page 323.

Machine Molded Pulleys—Continued

Largest Bore at Regular Price $3\frac{15}{16}$"

Diameter, Inches	Face, Inches	SOLID Single Belt	SOLID Double Belt	SOLID Double Arm, Double Belt	SPLIT Single Belt	SPLIT Double Belt	SPLIT Double Arm, Double Belt
32	30	.....	.....	97.50	.....	.....	122.00
	32	.....	.....	106.00	.....	.....	132.00
	34	.....	.....	116.00	.....	.....	144.00
33	3	11.60	12.80	.....	16.60	17.80	.....
	4	13.40	14.80	.....	19.10	20.50	.....
	5	15.20	16.80	.....	21.60	23.20	.....
	6	16.90	18.80	.....	23.90	25.80	.....
	7	18.70	20.80	.....	26.30	28.40	.....
	8	20.50	22.80	.....	28.70	31.00	.....
	9	22.20	24.80	.....	30.90	33.50	.....
	10	24.00	26.80	.....	33.40	36.20	.....
	11	25.60	28.60	.....	36.00	39.00	.....
	12	.....	30.40	.....	.....	41.80	.....
	13	.....	32.40	.....	.....	44.60	.....
	14	.....	34.40	.....	.....	47.40	.....
	15	.....	37.00	.....	.....	50.50	.....
	16	.....	39.60	.....	.....	54.00	.....
	17	.....	42.20	.....	.....	57.50	.....
	18	.....	44.80	.....	.....	61.00	.....
	19	.....	47.60	.....	.....	64.50	.....
	20	.....	50.40	66.00	.....	68.00	84.00
	21	.....	53.20	.....	.....	71.50	.....
	22	.....	56.00	71.50	.....	74.50	90.00
	23	.....	58.80	.....	.....	77.50	.....
	24	.....	61.60	77.00	.....	80.50	96.00
	26	.....	.....	84.50	.....	.....	106.00
	28	.....	.....	92.00	.....	.....	116.00
	30	.....	.....	102.00	.....	.....	126.00
	32	.....	.....	111.00	.....	.....	136.00
	34	.....	.....	122.00	.....	.....	148.00
34	3	12.20	13.40	.....	17.10	18.30	.....
	4	14.00	15.40	.....	19.60	21.00	.....
	5	15.70	17.40	.....	22.00	23.70	.....
	6	17.50	19.40	.....	24.50	26.40	.....
	7	19.20	21.40	.....	26.80	29.00	.....
	8	21.00	23.40	.....	29.30	31.70	.....
	9	22.70	25.40	.....	31.80	34.50	.....
	10	24.40	27.40	.....	34.20	37.20	.....
	11	26.20	29.40	.....	36.80	40.00	.....
	12	.....	31.40	.....	.....	43.00	.....
	13	.....	33.70	.....	.....	46.00	.....
	14	.....	36.00	.....	.....	49.00	.....
	15	.....	39.00	.....	.....	52.00	.....
	16	.....	42.00	.....	.....	56.00	.....
	17	.....	45.00	.....	.....	60.00	.....
	18	.....	48.00	.....	.....	63.50	.....
	19	.....	51.00	.....	.....	67.00	.....
	20	.....	54.00	68.00	.....	70.50	85.50
	21	.....	57.00	.....	.....	74.00	.....
	22	.....	60.00	74.00	.....	77.50	92.50
	23	.....	63.00	.....	.....	81.00	.....

Largest Bore at Regular Price $3\frac{15}{16}$"

Diameter, Inches	Face, Inches	SOLID Single Belt	SOLID Double Belt	SOLID Double Arm, Double Belt	SPLIT Single Belt	SPLIT Double Belt	SPLIT Double Arm, Double Belt
34	24	.....	66.00	80.00	.....	85.00	100.00
	26	.....	.....	88.00	.....	.....	110.00
	28	.....	.....	96.00	.....	.....	120.00
	30	.....	.....	106.00	.....	.....	130.00
	32	.....	.....	116.00	.....	.....	140.00
	34	.....	.....	127.00	.....	.....	152.00
	36	.....	.....	137.00	.....	.....	162.00
35	3	12.70	14.00	.....	17.50	18.80	.....
	4	14.50	16.00	.....	20.00	21.50	.....
	5	16.20	18.00	.....	22.40	24.80	.....
	6	18.00	20.00	.....	25.00	27.00	.....
	7	19.70	22.00	.....	27.40	29.70	.....
	8	21.50	24.00	.....	30.00	32.50	.....
	9	23.20	26.00	.....	32.70	35.50	.....
	10	24.90	28.00	.....	35.40	38.50	.....
	11	26.70	30.00	.....	38.20	41.50	.....
	12	.....	32.00	.....	.....	44.50	.....
	13	.....	34.50	.....	.....	47.50	.....
	14	.....	37.00	.....	.....	50.50	.....
	15	.....	40.00	.....	.....	54.00	.....
	16	.....	43.00	.....	.....	58.00	.....
	17	.....	46.00	.....	.....	62.00	.....
	18	.....	49.00	.....	.....	65.50	.....
	19	.....	52.00	.....	.....	69.00	.....
	20	.....	55.00	70.00	.....	73.00	88.00
	21	.....	58.00	.....	.....	77.00	.....
	22	.....	61.50	76.00	.....	81.00	96.00
	23	.....	65.00	.....	.....	85.00	.....
	24	.....	68.00	82.00	.....	89.00	104.00
	26	.....	.....	92.00	.....	.....	114.00
	28	.....	.....	100.00	.....	.....	124.00
	30	.....	.....	110.00	.....	.....	134.00
	32	.....	.....	120.00	.....	.....	144.00
	34	.....	.....	132.00	.....	.....	159.00
	36	.....	.....	142.00	.....	.....	169.00
36	3	13.30	14.60	.....	18.20	19.50	.....
	4	15.10	16.60	.....	20.70	22.20	.....
	5	16.80	18.60	.....	23.10	24.90	.....
	6	18.50	20.60	.....	25.60	27.70	.....
	7	20.20	22.60	.....	28.10	30.50	.....
	8	22.10	24.70	.....	30.90	33.50	.....
	9	23.90	26.80	.....	33.60	36.50	.....
	10	25.70	28.90	.....	36.30	39.50	.....
	11	27.60	31.00	.....	39.10	42.50	.....
	12	29.50	33.20	.....	41.80	45.50	.....
	13	.....	35.70	.....	.....	48.50	.....
	14	.....	38.50	.....	.....	52.00	.....
	15	.....	41.50	.....	.....	56.00	.....
	16	.....	44.50	.....	.....	60.00	.....
	17	.....	47.50	.....	.....	64.00	.....
	18	.....	50.50	.....	.....	68.00	.....

For extra charges for Large Bores, Tight and Loose Pulleys and Flanged Pulleys, see pages 324 to 326. Telegraph Code on page 323.

Machine Molded Pulleys—Continued

Diameter, Inches	Face, Inches	SOLID Single Belt	SOLID Double Belt	SOLID Double Arm, Double Belt	SPLIT Single Belt	SPLIT Double Belt	SPLIT Double Arm, Double Belt
36	19	.....	53.50	.....	.....	72.00	.....
	20	.....	56.50	72.50	.....	76.00	92.00
	21	.....	60.00	.....	.....	80.00	.....
	22	.....	63.50	79.50	.....	84.00	100.00
	23	.....	67.00	.....	.....	88.00	.....
	24	.....	70.00	86.00	.....	92.00	108.00
	26	.....	.....	96.00	.....	.....	118.00
	28	.....	.....	104.00	.....	.....	128.00
	30	.....	.....	114.00	.....	.....	138.00
	32	.....	.....	124.00	.....	.....	148.00
	34	.....	.....	138.00	.....	.....	165.00
	36	.....	.....	148.00	.....	.....	175.00
37	4	15.70	17.30	.....	21.40	23.00	.....
	5	17.90	19.80	.....	23.80	25.70	.....
	6	20.00	22.20	.....	26.30	28.50	.....
	7	22.10	24.60	.....	29.00	31.50	.....
	8	24.10	26.80	.....	31.80	34.50	.....
	9	25.80	28.80	.....	34.50	37.50	.....
	10	27.50	30.80	.....	37.20	40.50	.....
	11	29.20	32.70	.....	40.00	43.50	.....
	12	30.90	34.70	.....	42.70	46.50	.....
	13	.....	37.50	.....	.....	50.00	.....
	14	.....	40.50	.....	.....	54.00	.....
	15	.....	43.50	.....	.....	58.00	.....
	16	.....	46.50	.....	.....	62.00	.....
	17	.....	49.50	.....	.....	66.00	.....
	18	.....	52.50	.....	.....	70.00	.....
	19	.....	55.50	.....	.....	74.00	.....
	20	.....	58.50	76.50	.....	78.00	96.00
	21	.....	62.00	.....	.....	82.00	.....
	22	.....	65.50	83.50	.....	86.00	104.00
	23	.....	69.00	.....	.....	90.00	.....
	24	.....	72.00	90.00	.....	95.00	113.00
	26	.....	.....	100.00	.....	.....	123.00
	28	.....	.....	108.00	.....	.....	133.00
	30	.....	.....	118.00	.....	.....	143.00
	32	.....	.....	128.00	.....	.....	153.00
	34	.....	.....	144.00	.....	.....	170.00
	36	.....	.....	154.00	.....	.....	180.00
38	4	16.30	18.00	.....	22.10	23.80	.....
	5	18.50	20.50	.....	24.50	26.50	.....
	6	20.70	23.00	.....	27.20	29.50	.....
	7	22.90	25.50	.....	29.90	32.50	.....
	8	25.00	27.80	.....	32.70	35.50	.....
	9	26.90	30.00	.....	35.40	38.50	.....
	10	28.70	32.10	.....	38.60	42.00	.....
	11	30.50	34.20	.....	41.30	45.00	.....
	12	32.40	36.40	.....	44.00	48.00	.....
	13	.....	39.00	.....	.....	52.00	.....
	14	.....	42.00	.....	.....	56.00	.....

Largest Bore at Regular Price $3\frac{15}{16}$"

Diameter, Inches	Face, Inches	SOLID Single Belt	SOLID Double Belt	SOLID Double Arm, Double Belt	SPLIT Single Belt	SPLIT Double Belt	SPLIT Double Arm, Double Belt
38	15	.....	45.50	.....	.....	60.00	.....
	16	.....	48.50	.....	.....	64.00	.....
	17	.....	51.50	.....	.....	67.50	.....
	18	.....	54.50	.....	.....	71.50	.....
	19	.....	58.00	.....	.....	75.50	.....
	20	.....	61.00	82.00	.....	80.00	101.00
	21	.....	64.00	.....	.....	84.00	.....
	22	.....	67.50	88.50	.....	88.00	109.00
	23	.....	71.00	.....	.....	92.00	.....
	24	.....	74.00	95.00	.....	97.00	118.00
	26	.....	.....	105.00	.....	.....	128.00
	28	.....	.....	113.00	.....	.....	138.00
	30	.....	.....	123.00	.....	.....	148.00
	32	.....	.....	135.00	.....	.....	158.00
	34	.....	.....	150.00	.....	.....	175.00
	36	.....	.....	160.00	.....	.....	185.00
	38	.....	.....	190.00	.....	.....	215.00
39	4	16.90	18.70	.....	22.80	24.60	.....
	5	19.10	21.20	.....	25.20	27.30	.....
	6	21.30	23.70	.....	27.60	30.00	.....
	7	23.50	26.20	.....	30.30	33.00	.....
	8	25.60	28.70	.....	32.90	36.00	.....
	9	27.70	31.00	.....	36.20	39.50	.....
	10	29.80	33.30	.....	39.50	43.00	.....
	11	31.70	35.50	.....	42.70	46.50	.....
	12	33.90	38.00	.....	45.40	49.50	.....
	13	.....	41.00	.....	.....	53.50	.....
	14	.....	44.00	.....	.....	57.50	.....
	15	.....	47.00	.....	.....	61.50	.....
	16	.....	50.00	.....	.....	65.50	.....
	17	.....	53.00	.....	.....	69.00	.....
	18	.....	56.00	.....	.....	73.00	.....
	19	.....	59.50	.....	.....	77.00	.....
	20	.....	62.50	83.50	.....	81.50	103.00
	21	.....	66.00	.....	.....	86.00	.....
	22	.....	69.50	91.00	.....	90.00	111.00
	23	.....	73.00	.....	.....	94.00	.....
	24	.....	76.00	98.00	.....	99.00	120.00
	26	.....	.....	108.00	.....	.....	130.00
	28	.....	.....	118.00	.....	.....	141.00
	30	.....	.....	128.00	.....	.....	151.00
	32	.....	.....	138.00	.....	.....	161.00
	34	.....	.....	155.00	.....	.....	178.00
	36	.....	.....	165.00	.....	.....	190.00
	38	.....	.....	195.00	.....	.....	220.00
40	4	17.50	19.40	.....	23.50	25.40	.....
	5	19.90	22.10	.....	26.00	28.20	.....
	6	22.30	24.80	.....	28.50	31.00	.....
	7	24.70	27.50	.....	31.20	34.00	.....
	8	26.90	30.00	.....	33.90	37.00	.....

Largest Bore at Regular Price $3\frac{15}{16}$"

For extra charges for Large Bores, Tight and Loose Pulleys and Flanged Pulleys, see pages 324 to 326. Telegraph Code on page 323.

Machine Molded Pulleys—Continued

Largest Bore at Regular Price $3\frac{15}{16}$"

Diameter, Inches	Face, Inches	SOLID Single Belt	SOLID Double Belt	SOLID Double Arm, Double Belt	SPLIT Single Belt	SPLIT Double Belt	SPLIT Double Arm, Double Belt
40	9	29.10	32.50	.....	37.10	40.50	.....
	10	31.30	35.00	.....	40.30	44.00	.....
	11	33.40	37.40	.....	43.50	47.50	.....
	12	35.80	40.00	.....	46.80	51.00	.....
	13	.....	43.00	.....	.....	55.00	.....
	14	.....	46.00	.....	.....	59.00	.....
	15	.....	49.00	.....	.....	63.00	.....
	16	.....	52.00	.....	.....	67.00	.....
	17	.....	55.00	.....	.....	70.50	.....
	18	.....	58.00	.....	.....	74.50	.....
	19	.....	61.50	.....	.....	78.50	.....
	20	.....	65.00	87.00	.....	83.00	105.00
	21	.....	68.00	.....	.....	87.50	.....
	22	.....	72.00	94.00	.....	92.00	114.00
	23	.....	75.00	.....	.....	96.00	.....
	24	.....	78.00	100.00	.....	101.00	123.00
	26	.....	.....	113.00	.....	.....	133.00
	28	.....	.....	123.00	.....	.....	143.00
	30	.....	.....	133.00	.....	.....	153.00
	32	.....	.....	143.00	.....	.....	163.00
	34	.....	.....	160.00	.....	.....	181.00
	36	.....	.....	170.00	.....	.....	195.00
	38	.....	.....	200.00	.....	.....	225.00
41	4	18.10	20.10	.....	24.20	26.20	.....
	5	20.70	23.00	.....	26.70	29.00	.....
	6	23.20	25.90	.....	29.30	32.00	.....
	7	25.90	28.80	.....	32.10	35.00	.....
	8	28.30	31.50	.....	34.80	38.00	.....
	9	30.50	34.00	.....	38.00	41.50	.....
	10	32.70	36.50	.....	41.20	45.00	.....
	11	34.80	38.90	.....	44.40	48.50	.....
	12	37.10	41.50	.....	47.60	52.00	.....
	13	.....	44.50	.....	.....	56.00	.....
	14	.....	47.50	.....	.....	60.00	.....
	15	.....	50.50	.....	.....	64.00	.....
	16	.....	53.50	.....	.....	68.00	.....
	17	.....	56.50	.....	.....	72.00	.....
	18	.....	60.00	.....	.....	76.00	.....
	19	.....	63.50	.....	.....	80.00	.....
	20	.....	67.00	89.00	.....	84.50	107.00
	21	.....	70.00	.....	.....	89.00	.....
	22	.....	74.00	96.00	.....	94.00	116.00
	23	.....	77.00	.....	.....	98.00	.....
	24	.....	80.00	102.00	.....	103.00	125.00
	26	.....	.....	118.00	.....	.....	135.00
	28	.....	.....	128.00	.....	.....	145.00
	30	.....	.....	138.00	.....	.....	155.00
	32	.....	.....	148.00	.....	.....	165.00
	34	.....	.....	165.00	.....	.....	185.00
	36	.....	.....	175.00	.....	.....	200.00
	38	.....	.....	205.00	.....	.....	230.00

Largest Bore at Regular Price $3\frac{15}{16}$"

Diameter, Inches	Face, Inches	SOLID Single Belt	SOLID Double Belt	SOLID Double Arm, Double Belt	SPLIT Single Belt	SPLIT Double Belt	SPLIT Double Arm, Double Belt
42	4	18.70	20.80	.....	24.90	27.00	.....
	5	21.30	23.80	.....	27.50	30.00	.....
	6	23.90	26.70	.....	30.20	33.00	.....
	7	26.60	29.60	.....	33.00	36.00	.....
	8	29.10	32.40	.....	35.70	39.00	.....
	9	31.40	35.20	.....	38.90	42.50	.....
	10	33.50	37.80	.....	42.00	46.00	.....
	11	35.80	40.40	.....	45.80	50.00	.....
	12	38.50	43.00	.....	49.50	54.00	.....
	13	.....	46.00	.....	.....	58.00	.....
	14	.....	49.00	.....	.....	62.00	.....
	15	.....	52.00	.....	.....	66.00	.....
	16	.....	55.50	.....	.....	70.00	.....
	17	.....	58.50	.....	.....	73.50	.....
	18	.....	62.00	.....	.....	77.50	.....
	19	.....	65.50	.....	.....	81.50	.....
	20	.....	69.00	94.00	.....	86.00	111.00
	21	.....	72.00	.....	.....	90.50	.....
	22	.....	76.00	101.00	.....	95.00	120.00
	23	.....	79.00	.....	.....	100.00	.....
	24	.....	82.00	107.00	.....	105.00	130.00
	26	.....	.....	121.00	.....	.....	140.00
	28	.....	.....	131.00	.....	.....	150.00
	30	.....	.....	141.00	.....	.....	160.00
	32	.....	.....	151.00	.....	.....	170.00
	34	.....	.....	168.00	.....	.....	190.00
	36	.....	.....	180.00	.....	.....	205.00
	38	.....	.....	210.00	.....	.....	235.00
	40	.....	.....	235.00	.....	.....	265.00
43	4	19.30	21.50	.....	25.60	27.80	.....
	5	22.20	24.50	.....	28.50	30.80	.....
	6	24.60	27.50	.....	30.90	33.80	.....
	7	27.40	30.50	.....	33.70	36.80	.....
	8	29.90	33.40	.....	36.50	40.00	.....
	9	32.40	36.40	.....	39.50	43.50	.....
	10	34.50	39.00	.....	42.50	47.00	.....
	11	37.10	41.80	.....	46.30	51.00	.....
	12	39.80	44.50	.....	50.30	55.00	.....
	13	.....	47.50	.....	.....	59.00	.....
	14	.....	50.50	.....	.....	63.00	.....
	15	.....	54.00	.....	.....	67.00	.....
	16	.....	57.50	.....	.....	71.00	.....
	17	.....	60.50	.....	.....	75.00	.....
	18	.....	64.00	.....	.....	79.00	.....
	19	.....	67.50	.....	.....	83.00	.....
	20	.....	71.00	100.00	.....	87.50	115.00
	21	.....	74.00	.....	.....	92.00	.....
	22	.....	78.00	106.00	.....	97.00	125.00
	23	.....	81.00	.....	.....	102.00	.....
	24	.....	84.00	112.00	.....	107.00	135.00
	26	.....	.....	124.00	.....	.....	145.00

For extra charges for Large Bores, Tight and Loose Pulleys and Flanged Pulleys, see pages 324 to 326. Telegraph Code on page 323.

Machine Molded Pulleys—Continued

Diameter, Inches	Face, Inches	SOLID Single Belt	SOLID Double Belt	SOLID Double Arm Double Belt	SPLIT Single Belt	SPLIT Double Belt	SPLIT Double Arm, Double Belt
43	28	.....	.....	134.00	.....	.....	155.00
	30	.....	.....	144.00	.....	.....	165.00
	32	.....	.....	154.00	.....	.....	175.00
	34	.....	.....	171.00	.....	.....	195.00
	36	.....	.....	185.00	.....	.....	210.00
	38	.....	.....	220.00	.....	.....	250.00
	40	.....	.....	245.00	.....	.....	275.00
44	4	20.00	22.20	.....	26.40	28.60	.....
	5	22.60	25.20	.....	29.00	31.60	.....
	6	25.30	28.20	.....	31.70	34.60	.....
	7	27.90	31.20	.....	34.30	37.60	.....
	8	30.40	34.20	.....	37.30	41.00	.....
	9	33.00	37.20	.....	40.50	44.50	.....
	10	35.60	40.00	.....	43.80	48.00	.....
	11	38.20	43.00	.....	47.40	52.00	.....
	12	41.00	46.00	.....	51.10	56.00	.....
	13	.....	49.00	.....	.....	60.00	.....
	14	.....	52.00	.....	.....	64.00	.....
	15	.....	55.50	.....	.....	68.00	.....
	16	.....	59.00	.....	.....	72.00	.....
	17	.....	62.50	.....	.....	76.50	.....
	18	.....	66.00	.....	.....	80.50	.....
	19	.....	69.50	.....	.....	84.50	.....
	20	.....	73.00	104.00	.....	89.00	120.00
	21	.....	76.00	.....	.....	94.00	.....
	22	.....	80.00	111.00	.....	99.00	130.00
	23	.....	83.00	.....	.....	104.00	.....
	24	.....	86.00	117.00	.....	109.00	140.00
	26	.....	.....	129.00	.....	.....	150.00
	28	.....	.....	137.00	.....	.....	160.00
	30	.....	.....	147.00	.....	.....	170.00
	32	.....	.....	157.00	.....	.....	180.00
	34	.....	.....	175.00	.....	.....	200.00
	36	.....	.....	190.00	.....	.....	215.00
	38	.....	.....	230.00	.....	.....	260.00
	40	.....	.....	255.00	.....	.....	285.00
45	4	20.70	23.00	.....	27.10	29.40	.....
	5	23.30	26.00	.....	29.70	32.40	.....
	6	25.90	29.00	.....	32.40	35.50	.....
	7	28.60	32.00	.....	35.40	38.80	.....
	8	31.20	35.00	.....	38.20	42.00	.....
	9	33.90	38.00	.....	41.40	45.50	.....
	10	36.70	41.00	.....	44.50	49.00	.....
	11	39.70	44.50	.....	49.20	53.00	.....
	12	42.60	47.50	.....	51.80	57.00	.....
	13	.....	50.50	.....	.....	61.00	.....
	14	.....	54.00	.....	.....	65.00	.....
	15	.....	57.50	.....	.....	69.00	.....
	16	.....	61.00	.....	.....	73.00	.....
	17	.....	64.50	.....	.....	78.00	.....

Largest Bore at Regular Price $4\frac{7}{16}''$

Largest Bore at Regular Price $4\frac{7}{16}''$

Diameter, Inches	Face, Inches	SOLID Single Belt	SOLID Double Belt	SOLID Double Arm Double Belt	SPLIT Single Belt	SPLIT Double Belt	SPLIT Double Arm, Double Belt
45	18	.....	68.00	.....	.....	82.00	.....
	19	.....	71.50	.....	.....	86.00	.....
	20	.....	75.00	106.00	.....	91.00	125.00
	21	.....	78.50	.....	.....	96.00	.....
	22	.....	82.00	114.00	.....	101.00	135.00
	23	.....	85.50	.....	.....	106.00	.....
	24	.....	88.00	123.00	.....	111.00	145.00
	26	.....	.....	132.00	.....	.....	155.00
	28	.....	.....	140.00	.....	.....	165.00
	30	.....	.....	150.00	.....	.....	175.00
	32	.....	.....	160.00	.....	.....	185.00
	34	.....	.....	180.00	.....	.....	205.00
	36	.....	.....	195.00	.....	.....	220.00
	38	.....	.....	235.00	.....	.....	267.00
	40	.....	.....	260.00	.....	.....	292.00
46	4	21.60	24.00	.....	27.80	30.20	.....
	5	24.20	27.00	.....	30.40	33.20	.....
	6	26.80	30.00	.....	33.20	36.40	.....
	7	29.50	33.00	.....	36.20	39.70	.....
	8	32.30	36.00	.....	39.30	43.00	.....
	9	35.20	39.00	.....	42.20	46.50	.....
	10	38.10	42.00	.....	45.30	50.00	.....
	11	41.00	45.50	.....	49.50	54.00	.....
	12	43.90	49.00	.....	52.90	58.00	.....
	13	.....	52.50	.....	.....	62.00	.....
	14	.....	56.00	.....	.....	66.00	.....
	15	.....	59.50	.....	.....	70.00	.....
	16	.....	63.00	.....	.....	75.00	.....
	17	.....	66.50	.....	.....	80.00	.....
	18	.....	70.00	.....	.....	84.00	.....
	19	.....	73.50	.....	.....	88.00	.....
	20	.....	77.00	108.00	.....	93.00	130.00
	21	.....	80.50	.....	.....	98.00	.....
	22	.....	84.00	117.00	.....	103.00	140.00
	23	.....	87.50	.....	.....	108.00	.....
	24	.....	91.00	125.00	.....	113.00	150.00
	26	.....	.....	135.00	.....	.....	160.00
	28	.....	.....	143.00	.....	.....	170.00
	30	.....	.....	153.00	.....	.....	180.00
	32	.....	.....	163.00	.....	.....	190.00
	34	.....	.....	186.00	.....	.....	210.00
	36	.....	.....	201.00	.....	.....	225.00
	38	.....	.....	243.00	.....	.....	275.00
	40	.....	.....	266.00	.....	.....	300.00
47	4	22.50	25.00	.....	28.50	31.00	.....
	5	25.10	28.00	.....	31.10	34.00	.....
	6	27.70	31.00	.....	33.90	37.20	.....
	7	30.30	34.00	.....	36.80	40.50	.....
	8	33.20	37.20	.....	40.00	44.00	.....

For extra charges for Large Bores, Tight and Loose Pulleys and Flanged Pulleys, see pages 324 to 326. Telegraph Code on page 323.

Machine Molded Pulleys—Continued

Diameter, Inches	Face, Inches	SOLID Single Belt	SOLID Double Belt	SOLID Double Arm, Double Belt	SPLIT Single Belt	SPLIT Double Belt	SPLIT Double Arm, Double Belt
47 Largest Bore at Regular Price $4\frac{7}{16}$"	9	36.00	40.00	.....	43.50	47.50	.....
	10	39.00	43.50	.....	46.50	51.00	.....
	11	41.90	47.00	.....	49.90	55.00	.....
	12	44.80	50.50	.....	53.30	59.00	.....
	13	.....	54.00	.....	.....	63.00	.....
	14	.....	57.50	.....	.....	67.00	.....
	15	.....	61.00	.....	.....	72.00	.....
	16	.....	64.50	.....	.....	77.00	.....
	17	.....	68.00	.....	.....	82.00	.....
	18	.....	72.00	.....	.....	86.00	.....
	19	.....	75.50	.....	.....	90.00	.....
	20	.....	79.00	110.00	.....	95.00	135.00
	21	.....	83.00	.....	.....	100.00	.....
	22	.....	87.00	118.00	.....	105.00	145.00
	23	.....	91.00	.....	.....	110.00	.....
	24	.....	95.00	126.00	.....	115.00	155.00
	26	.....	.....	136.00	.....	.....	165.00
	28	.....	.....	146.00	.....	.....	175.00
	30	.....	.....	156.00	.....	.....	185.00
	32	.....	.....	166.00	.....	.....	195.00
	34	.....	.....	192.00	.....	.....	215.00
	36	.....	.....	208.00	.....	.....	235.00
	38	.....	.....	252.00	.....	.....	282.00
	40	.....	.....	273.00	.....	.....	307.00
48 Largest Bore at Regular Price $4\frac{7}{16}$"	4	23.40	26.00	.....	29.20	31.80	.....
	5	26.00	29.00	.....	31.80	34.80	.....
	6	28.50	32.00	.....	34.50	38.00	.....
	7	31.20	35.00	.....	37.70	41.50	.....
	8	34.00	38.20	.....	40.80	45.00	.....
	9	36.90	41.50	.....	43.90	48.50	.....
	10	39.80	45.00	.....	46.80	52.00	.....
	11	42.70	48.50	.....	50.20	56.00	.....
	12	45.60	52.00	.....	53.60	60.00	.....
	13	.....	55.50	.....	.....	64.00	.....
	14	.....	59.00	.....	.....	68.00	.....
	15	.....	62.50	.....	.....	74.00	.....
	16	.....	66.00	.....	.....	79.00	.....
	17	.....	69.50	.....	.....	84.00	.....
	18	.....	73.50	.....	.....	88.00	.....
	19	.....	77.50	.....	.....	93.00	.....
	20	.....	81.00	111.00	.....	98.00	140.00
	21	.....	85.00	.....	.....	103.00	.....
	22	.....	90.00	120.00	.....	108.00	150.00
	23	.....	95.00	.....	.....	113.00	.....
	24	.....	100.00	130.00	.....	118.00	160.00
	26	.....	.....	140.00	.....	.....	170.00
	28	.....	.....	150.00	.....	.....	180.00
	30	.....	.....	160.00	.....	.....	190.00
	32	.....	.....	170.00	.....	.....	200.00
	34	.....	.....	200.00	.....	.....	225.00
	36	.....	.....	215.00	.....	.....	245.00

Diameter, Inches	Face, Inches	SOLID Single Belt	SOLID Double Belt	SOLID Double Arm, Double Belt	SPLIT Single Belt	SPLIT Double Belt	SPLIT Double Arm, Double Belt
48 Largest Bore at Regular Price $4\frac{15}{16}$"	38	.....	.....	260.00	.....	.....	290.00
	40	.....	.....	280.00	.....	.....	315.00
50 Largest Bore at Regular Price $4\frac{15}{16}$"	4	.....	28.00	.....	.....	33.40	.....
	5	.....	31.00	.....	.....	36.50	.....
	6	.....	34.50	.....	.....	40.00	.....
	7	.....	38.00	.....	.....	43.50	.....
	8	.....	41.20	.....	.....	47.00	.....
	9	.....	44.50	.....	.....	50.50	.....
	10	.....	48.00	.....	.....	54.00	.....
	11	.....	51.50	.....	.....	58.00	.....
	12	.....	55.00	.....	.....	62.00	.....
	13	.....	58.50	.....	.....	67.00	.....
	14	.....	62.00	.....	.....	72.00	.....
	15	.....	65.50	.....	.....	78.00	.....
	16	.....	69.00	.....	.....	83.00	.....
	17	.....	73.00	.....	.....	88.00	.....
	18	.....	77.00	.....	.....	93.00	.....
	19	.....	81.00	.....	.....	98.00	.....
	20	.....	85.00	120.00	.....	103.00	150.00
	21	.....	90.00	.....	.....	109.00	.....
	22	.....	95.00	130.00	.....	115.00	160.00
	23	.....	100.00	.....	.....	120.00	.....
	24	.....	105.00	140.00	.....	125.00	170.00
	26	.....	.....	150.00	.....	.....	180.00
	28	.....	.....	160.00	.....	.....	190.00
	30	.....	.....	170.00	.....	.....	200.00
	32	.....	.....	180.00	.....	.....	210.00
	34	.....	.....	210.00	.....	.....	240.00
	36	.....	.....	225.00	.....	.....	260.00
	38	.....	.....	270.00	.....	.....	310.00
	40	.....	.....	300.00	.....	.....	335.00
52 Largest Bore at Regular Price $4\frac{15}{16}$"	4	.....	30.00	.....	.....	35.00	.....
	5	.....	33.50	.....	.....	38.20	.....
	6	.....	37.00	.....	.....	42.00	.....
	7	.....	40.50	.....	.....	45.50	.....
	8	.....	44.00	.....	.....	49.00	.....
	9	.....	47.50	.....	.....	52.50	.....
	10	.....	51.00	.....	.....	56.00	.....
	11	.....	54.50	.....	.....	60.00	.....
	12	.....	58.00	.....	.....	65.00	.....
	13	.....	61.50	.....	.....	70.00	.....
	14	.....	65.00	.....	.....	76.00	.....
	15	.....	68.50	.....	.....	82.00	.....
	16	.....	72.00	.....	.....	87.00	.....
	17	.....	77.00	.....	.....	93.00	.....
	18	.....	82.00	.....	.....	99.00	.....
	19	.....	86.00	.....	.....	105.00	.....
	20	.....	90.00	.....	.....	110.00	.....
	21	.....	95.00	.....	.....	115.00	.....
	22	.....	100.00	140.00	.....	120.00	170.00

For extra charges for Large Bores, Tight and Loose Pulleys and Flanged Pulleys, see pages 324 to 326. Telegraph Code on page 323.

Machine Molded Pulleys—Continued

Diameter, Inches	Face, Inches	SOLID Single Belt	SOLID Double Belt	SOLID Double Arm, Double Belt	SPLIT Single Belt	SPLIT Double Belt	SPLIT Double Arm, Double Belt
52	23		105.00			125.00	
	24		110.00	150.00		130.00	180.00
	26			160.00			190.00
	28			170.00			200.00
	30			180.00			210.00
	32			190.00			220.00
	34			220.00			250.00
	36			240.00			270.00
	38			280.00			320.00
	40			320.00			350.00
54	4		32.00			37.00	
	5		35.50			42.00	
	6		39.00			46.00	
	7		42.50			50.00	
	8		46.00			54.00	
	9		50.00			58.00	
	10		54.00			62.00	
	11		57.50			67.00	
	12		61.00			72.00	
	13		64.50			77.00	
	14		68.00			82.00	
	15		71.50			87.00	
	16		76.00			93.00	
	17		81.00			99.00	
	18		86.00			105.00	
	19		90.00			110.00	
	20		95.00			115.00	
	21		100.00			120.00	
	22		105.00	150.00		125.00	180.00
	23		110.00			130.00	
	24		115.00	160.00		135.00	190.00
	26			170.00			200.00
	28			180.00			210.00
	30			190.00			220.00
	32			200.00			230.00
	34			235.00			260.00
	36			255.00			280.00
	38			300.00			330.00
	40			335.00			360.00
56	4		34.00			39.00	
	5		37.50			44.00	
	6		41.00			48.00	
	7		45.00			52.00	
	8		49.00			56.00	
	9		53.00			60.00	
	10		57.00			65.00	
	11		60.50			70.00	
	12		64.00			76.00	
	13		67.50			82.00	
	14		71.00			88.00	

Largest Bore at Regular Price $4\frac{15}{16}$"

Diameter, Inches	Face, Inches	SOLID Single Belt	SOLID Double Belt	SOLID Double Arm, Double Belt	SPLIT Single Belt	SPLIT Double Belt	SPLIT Double Arm, Double Belt
56	15		75.00			93.00	
	16		80.00			99.00	
	17		85.00			105.00	
	18		90.00			110.00	
	19		95.00			115.00	
	20		100.00			120.00	
	21		105.00			125.00	
	22		110.00	160.00		130.00	190.00
	23		115.00			135.00	
	24		120.00	170.00		140.00	200.00
	26			180.00			210.00
	28			195.00			220.00
	30			210.00			230.00
	32			225.00			240.00
	34			255.00			275.00
	36			275.00			295.00
	38			320.00			345.00
	40			350.00			380.00
58	4		36.00			41.00	
	5		40.00			46.00	
	6		44.00			50.00	
	7		48.00			54.00	
	8		52.00			59.00	
	9		56.00			64.00	
	10		60.00			69.00	
	11		63.50			74.00	
	12		67.00			80.00	
	13		71.00			86.00	
	14		75.00			92.00	
	15		80.00			98.00	
	16		85.00			105.00	
	17		90.00			111.00	
	18		95.00			116.00	
	19		100.00			121.00	
	20		105.00			126.00	
	21		110.00			131.00	
	22		115.00	170.00		136.00	203.00
	23		120.00			142.00	
	24		125.00	180.00		148.00	215.00
	26			190.00			225.00
	28			205.00			235.00
	30			220.00			245.00
	32			235.00			257.00
	34			265.00			295.00
	36			285.00			315.00
	38			335.00			365.00
	40			370.00			400.00
60	4		38.00			43.00	
	5		42.50			48.00	
	6		46.50			53.00	

Largest Bore at Regular Price $4\frac{15}{16}$"

For extra charges for Large Bores, Tight and Loose Pulleys and Flanged Pulleys, see pages 324 to 326. Telegraph Code on page 323.

Machine Molded Pulleys—Continued

Diameter, Inches	Face, Inches	SOLID Single Belt	SOLID Double Belt	SOLID Double Arm, Double Belt	SPLIT Single Belt	SPLIT Double Belt	SPLIT Double Arm, Double Belt
60	7	.....	50.50	.....	.....	57.00	.....
	8	.....	55.00	.....	.....	62.00	.....
	9	.....	59.50	.....	.....	68.00	.....
	10	.....	63.00	.....	.....	74.00	.....
	11	.....	67.00	.....	.....	80.00	.....
	12	.....	71.00	.....	.....	86.00	.....
	13	.....	75.00	.....	.....	92.00	.....
	14	.....	80.00	.....	.....	98.00	.....
	15	.....	85.00	.....	.....	104.00	.....
	16	.....	90.00	.....	.....	110.00	.....
	17	.....	95.00	.....	.....	116.00	.....
	18	.....	100.00	.....	.....	121.00	.....
	19	.....	105.00	.....	.....	126.00	.....
	20	.....	111.00	.....	.....	132.00	.....
	21	.....	117.00	.....	.....	138.00	.....
	22	.....	123.00	185.00	.....	144.00	218.00
	23	.....	128.00	.....	.....	150.00	.....
	24	.....	133.00	195.00	.....	156.00	230.00
	26	.....	.....	205.00	.....	.....	240.00
	28	.....	.....	220.00	.....	.....	250.00
	30	.....	.....	235.00	.....	.....	262.00
	32	.....	.....	250.00	.....	.....	275.00
	34	.....	.....	285.00	.....	.....	315.00
	36	.....	.....	305.00	.....	.....	335.00
	38	.....	.....	350.00	.....	.....	385.00
	40	.....	.....	390.00	.....	.....	420.00
62	4	.....	40.00	.....	.....	45.00	.....
	5	.....	45.00	.....	.....	50.00	.....
	6	.....	49.00	.....	.....	55.00	.....
	7	.....	53.00	.....	.....	60.00	.....
	8	.....	58.00	.....	.....	66.00	.....
	9	.....	63.00	.....	.....	72.00	.....
	10	.....	67.00	.....	.....	78.00	.....
	11	.....	71.00	.....	.....	84.00	.....
	12	.....	75.00	.....	.....	90.00	.....
	13	.....	80.00	.....	.....	96.00	.....
	14	.....	85.00	.....	.....	102.00	.....
	15	.....	90.00	.....	.....	109.00	.....
	16	.....	95.00	.....	.....	115.00	.....
	17	.....	100.00	.....	.....	121.00	.....
	18	.....	105.00	.....	.....	127.00	.....
	19	.....	111.00	.....	.....	133.00	.....
	20	.....	117.00	.....	.....	139.00	.....
	21	.....	124.00	.....	.....	145.00	.....
	22	.....	130.00	193.00	.....	151.00	227.00
	23	.....	136.00	.....	.....	157.00	.....
	24	.....	142.00	205.00	.....	164.00	240.00
	26	.....	.....	215.00	.....	.....	250.00
	28	.....	.....	230.00	.....	.....	265.00
	30	.....	.....	245.00	.....	.....	280.00
	32	.....	.....	260.00	.....	.....	295.00

Largest Bore at Regular Price: 60 — $4\frac{15}{16}$″; 62 — $4\frac{15}{16}$″

Diameter, Inches	Face, Inches	SOLID Single Belt	SOLID Double Belt	SOLID Double Arm, Double Belt	SPLIT Single Belt	SPLIT Double Belt	SPLIT Double Arm, Double Belt
62	34	.....	.....	300.00	.....	.....	335.00
	36	.....	.....	320.00	.....	.....	355.00
	38	.....	.....	370.00	.....	.....	405.00
	40	.....	.....	410.00	.....	.....	440.00
64	6	.....	52.00	.....	.....	58.00	.....
	7	.....	57.00	.....	.....	64.00	.....
	8	.....	62.00	.....	.....	70.00	.....
	9	.....	67.00	.....	.....	76.00	.....
	10	.....	71.00	.....	.....	82.00	.....
	11	.....	75.00	.....	.....	88.00	.....
	12	.....	80.00	.....	.....	94.00	.....
	13	.....	85.00	.....	.....	100.00	.....
	14	.....	90.00	.....	.....	106.00	.....
	15	.....	95.00	.....	.....	113.00	.....
	16	.....	100.00	.....	.....	120.00	.....
	17	.....	105.00	.....	.....	126.00	.....
	18	.....	111.00	.....	.....	132.00	.....
	19	.....	117.00	.....	.....	138.00	.....
	20	.....	124.00	.....	.....	145.00	.....
	21	.....	132.00	.....	.....	152.00	.....
	22	.....	138.00	201.00	.....	159.00	237.00
	23	.....	145.00	.....	.....	165.00	.....
	24	.....	152.00	215.00	.....	172.00	250.00
	26	.....	.....	230.00	.....	.....	265.00
	28	.....	.....	245.00	.....	.....	280.00
	30	.....	.....	260.00	.....	.....	295.00
	32	.....	.....	275.00	.....	.....	310.00
	34	.....	.....	315.00	.....	.....	350.00
	36	.....	.....	335.00	.....	.....	370.00
	38	.....	.....	385.00	.....	.....	420.00
	40	.....	.....	425.00	.....	.....	460.00
66	6	.....	55.00	.....	.....	62.00	.....
	7	.....	60.00	.....	.....	68.00	.....
	8	.....	65.00	.....	.....	74.00	.....
	9	.....	70.00	.....	.....	80.00	.....
	10	.....	75.00	.....	.....	86.00	.....
	11	.....	80.00	.....	.....	92.00	.....
	12	.....	85.00	.....	.....	98.00	.....
	13	.....	90.00	.....	.....	104.00	.....
	14	.....	95.00	.....	.....	111.00	.....
	15	.....	100.00	.....	.....	118.00	.....
	16	.....	105.00	.....	.....	125.00	.....
	17	.....	110.00	.....	.....	132.00	.....
	18	.....	117.00	.....	.....	139.00	.....
	19	.....	124.00	.....	.....	146.00	.....
	20	.....	132.00	.....	.....	153.00	.....
	21	.....	140.00	.....	.....	160.00	.....
	22	.....	148.00	210.00	.....	167.00	247.00
	23	.....	156.00	.....	.....	173.00	.....
	24	.....	164.00	225.00	.....	180.00	260.00

Largest Bore at Regular Price: 64 — $5\frac{1}{16}$″; 66 — $5\frac{1}{16}$″

For extra charges for Large Bores, Tight and Loose Pulleys and Flanged Pulleys, see pages 324 to 326. Telegraph Code on page 323.

Machine Molded Pulleys—Continued

Largest Bore at Regular Price $5\frac{7}{16}''$

Diameter, Inches	Face, Inches	SOLID Single Belt	SOLID Double Belt	SOLID Double Arm, Double Belt	SPLIT Single Belt	SPLIT Double Belt	SPLIT Double Arm, Double Belt
66	26			240.00			280.00
	28			255.00			295.00
	30			270.00			310.00
	32			285.00			325.00
	34			325.00			365.00
	36			345.00			390.00
	38			395.00			440.00
	40			435.00			480.00
68	6		58.00			65.00	
	7		63.00			71.00	
	8		68.00			77.00	
	9		73.00			83.00	
	10		79.00			89.00	
	11		85.00			95.00	
	12		90.00			102.00	
	13		95.00			109.00	
	14		100.00			116.00	
	15		105.00			123.00	
	16		110.00			130.00	
	17		117.00			137.00	
	18		125.00			144.00	
	19		132.00			152.00	
	20		140.00			160.00	
	21		147.00			168.00	
	22		155.00	220.00		176.00	255.00
	23		162.00			184.00	
	24		170.00	235.00		190.00	270.00
	26			250.00			290.00
	28			265.00			310.00
	30			280.00			325.00
	32			295.00			340.00
	34			340.00			380.00
	36			360.00			410.00
	38			410.00			460.00
	40			450.00			500.00
70	6		61.00			69.00	
	7		66.00			75.00	
	8		71.00			81.00	
	9		76.00			87.00	
	10		82.00			93.00	
	11		88.00			100.00	
	12		93.50			107.00	
	13		99.00			114.00	
	14		106.00			121.00	
	15		113.00			128.00	
	16		120.00			136.00	
	17		127.00			144.00	
	18		134.00			152.00	
	19		141.00			160.00	
	20		148.00			168.00	

Largest Bore at Regular Price $5\frac{7}{16}''$

Diameter, Inches	Face, Inches	SOLID Single Belt	SOLID Double Belt	SOLID Double Arm, Double Belt	SPLIT Single Belt	SPLIT Double Belt	SPLIT Double Arm, Double Belt
70	21		155.00			176.00	
	22		163.00	235.00		184.00	265.00
	23		170.00			192.00	
	24		178.00	250.00		200.00	280.00
	26			260.00			300.00
	28			270.00			320.00
	30			290.00			340.00
	32			310.00			355.00
	34			355.00			400.00
	36			375.00			430.00
	38			425.00			480.00
	40			465.00			520.00
72	6		65.00			73.00	
	7		70.00			79.00	
	8		75.00			85.00	
	9		80.00			91.00	
	10		86.00			98.00	
	11		92.00			105.00	
	12		99.00			112.00	
	13		106.00			120.00	
	14		113.00			128.00	
	15		120.00			135.00	
	16		127.00			143.00	
	17		134.00			151.00	
	18		142.00			159.00	
	19		150.00			167.00	
	20		158.00			175.00	
	21		165.00			183.00	
	22		172.00	245.00		192.00	272.00
	23		180.00			201.00	
	24		188.00	260.00		210.00	290.00
	26			270.00			310.00
	28			280.00			330.00
	30			300.00			350.00
	32			320.00			370.00
	34			370.00			420.00
	36			400.00			450.00
	38			450.00			500.00
	40			490.00			540.00
74	8		80.00			89.00	
	9		85.00			95.00	
	10		92.00			102.00	
	11		99.00			109.00	
	12		106.00			117.00	
	13		113.00			125.00	
	14		120.00			133.00	
	15		127.00			141.00	
	16		134.00			150.00	
	17		141.00			158.00	

For extra charges for Large Bores, Tight and Loose Pulleys and Flanged Pulleys, see pages 324 to 326. Telegraph Code on page 323.

Machine Molded Pulleys—Continued

Diameter, Inches	Face, Inches	SOLID Single Belt	SOLID Double Belt	SOLID Double Arm, Double Belt	SPLIT Single Belt	SPLIT Double Belt	SPLIT Double Arm, Double Belt
74 Largest Bore at $5\frac{7}{16}$" Regular Price	18	.....	149.00	.....	.....	166.00	.....
	19	.....	157.00	.....	.....	174.00	.....
	20	.....	165.00	.....	.....	183.00	.....
	21	.....	173.00	.....	.....	192.00	.....
	22	.....	180.00	.....	.....	201.00	.....
	23	.....	187.00	.....	.....	210.00	.....
	24	.....	195.00	270.00	.....	220.00	305.00
	26	.....	.....	280.00	.....	.....	320.00
	28	.....	.....	290.00	.....	.....	340.00
	30	.....	.....	310.00	.....	.....	360.00
	32	.....	.....	330.00	.....	.....	380.00
	34	.....	.....	380.00	.....	.....	435.00
	36	.....	.....	410.00	.....	.....	465.00
	38	.....	.....	460.00	.....	.....	520.00
	40	.....	.....	500.00	.....	.....	560.00
76 Largest Bore at $5\frac{7}{16}$" Regular Price	8	.....	85.00	.....	.....	94.00	.....
	9	.....	90.00	.....	.....	100.00	.....
	10	.....	97.00	.....	.....	107.00	.....
	11	.....	104.00	.....	.....	115.00	.....
	12	.....	111.00	.....	.....	123.00	.....
	13	.....	118.00	.....	.....	132.00	.....
	14	.....	124.00	.....	.....	141.00	.....
	15	.....	132.00	.....	.....	150.00	.....
	16	.....	140.00	.....	.....	158.00	.....
	17	.....	148.00	.....	.....	166.00	.....
	18	.....	156.00	.....	.....	175.00	.....
	19	.....	164.00	.....	.....	184.00	.....
	20	.....	172.00	.....	.....	193.00	.....
	21	.....	180.00	.....	.....	202.00	.....
	22	.....	188.00	.....	.....	211.00	.....
	23	.....	198.00	.....	.....	220.00	.....
	24	.....	206.00	280.00	.....	230.00	325.00
	26	.....	.....	290.00	.....	.....	335.00
	28	.....	.....	300.00	.....	.....	355.00
	30	.....	.....	320.00	.....	.....	375.00
	32	.....	.....	340.00	.....	.....	395.00
	34	.....	.....	390.00	.....	.....	450.00
	36	.....	.....	420.00	.....	.....	480.00
	38	.....	.....	470.00	.....	.....	540.00
	40	.....	.....	510.00	.....	.....	580.00
78 Largest Bore at $5\frac{7}{16}$" Regular Price	8	.....	90.00	.....	.....	99.00	.....
	9	.....	95.00	.....	.....	105.00	.....
	10	.....	102.00	.....	.....	113.00	.....
	11	.....	109.00	.....	.....	121.00	.....
	12	.....	116.00	.....	.....	130.00	.....
	13	.....	124.00	.....	.....	139.00	.....
	14	.....	132.00	.....	.....	148.00	.....
	15	.....	140.00	.....	.....	157.00	.....
	16	.....	148.00	.....	.....	166.00	.....
	17	.....	156.00	.....	.....	175.00	.....
	18	.....	164.00	.....	.....	184.00	.....

Diameter, Inches	Face, Inches	SOLID Single Belt	SOLID Double Belt	SOLID Double Arm, Double Belt	SPLIT Single Belt	SPLIT Double Belt	SPLIT Double Arm, Double Belt
78 Largest Bore at $5\frac{7}{16}$" Regular Price	19	.....	172.00	.....	.....	193.00	.....
	20	.....	180.00	.....	.....	202.00	.....
	21	.....	188.00	.....	.....	211.00	.....
	22	.....	196.00	.....	.....	220.00	.....
	23	.....	205.00	.....	.....	230.00	.....
	24	.....	215.00	290.00	.....	240.00	330.00
	26	.....	.....	300.00	.....	.....	350.00
	28	.....	.....	310.00	.....	.....	370.00
	30	.....	.....	330.00	.....	.....	390.00
	32	.....	.....	350.00	.....	.....	410.00
	34	.....	.....	400.00	.....	.....	465.00
	36	.....	.....	430.00	.....	.....	495.00
	38	.....	.....	490.00	.....	.....	560.00
	40	.....	.....	530.00	.....	.....	600.00
80 Largest Bore at $5\frac{7}{16}$" Regular Price	8	.....	93.00	.....	.....	104.00	.....
	9	.....	100.00	.....	.....	111.00	.....
	10	.....	107.00	.....	.....	120.00	.....
	11	.....	114.00	.....	.....	129.00	.....
	12	.....	122.00	.....	.....	138.00	.....
	13	.....	130.00	.....	.....	147.00	.....
	14	.....	138.00	.....	.....	156.00	.....
	15	.....	146.00	.....	.....	165.00	.....
	16	.....	154.00	.....	.....	173.00	.....
	17	.....	163.00	.....	.....	182.00	.....
	18	.....	172.00	.....	.....	191.00	.....
	19	.....	181.00	.....	.....	200.00	.....
	20	.....	190.00	.....	.....	210.00	.....
	21	.....	199.00	.....	.....	220.00	.....
	22	.....	208.00	.....	.....	230.00	.....
	23	.....	217.00	.....	.....	240.00	.....
	24	.....	226.00	300.00	.....	250.00	345.00
	26	.....	.....	310.00	.....	.....	365.00
	28	.....	.....	320.00	.....	.....	385.00
	30	.....	.....	340.00	.....	.....	405.00
	32	.....	.....	360.00	.....	.....	425.00
	34	.....	.....	420.00	.....	.....	480.00
	36	.....	.....	450.00	.....	.....	510.00
	38	.....	.....	510.00	.....	.....	580.00
	40	.....	.....	550.00	.....	.....	620.00
82 Largest Bore at $5\frac{7}{16}$" Regular Price	8	.....	96.00	.....	.....	107.00	.....
	9	.....	104.00	.....	.....	116.00	.....
	10	.....	112.00	.....	.....	125.00	.....
	11	.....	120.00	.....	.....	134.00	.....
	12	.....	128.00	.....	.....	143.00	.....
	13	.....	136.00	.....	.....	152.00	.....
	14	.....	144.00	.....	.....	161.00	.....
	15	.....	152.00	.....	.....	170.00	.....
	16	.....	160.00	.....	.....	180.00	.....
	17	.....	170.00	.....	.....	190.00	.....
	18	.....	180.00	.....	.....	200.00	.....
	19	.....	190.00	.....	.....	210.00	.....

For extra charges for Large Bores, Tight and Loose Pulleys and Flanged Pulleys, see pages 324 to 326. Telegraph Code on page 323.

Machine Molded Pulleys—Continued

Diameter, Inches	Face, Inches	SOLID Single Belt	SOLID Double Belt	SOLID Double Arm, Double Belt	SPLIT Single Belt	SPLIT Double Belt	SPLIT Double Arm, Double Belt
Largest Bore at Regular Price 5 7/16"							
82	20		200.00			220.00	
	21		210.00			230.00	
	22		220.00			240.00	
	23		230.00			250.00	
	24		240.00	310.00		260.00	360.00
	26			320.00			380.00
	28			330.00			400.00
	30			350.00			420.00
	32			370.00			440.00
	34			430.00			500.00
	36			460.00			530.00
	38			525.00			600.00
	40			565.00			640.00
Largest Bore at Regular Price 5 7/16"							
84	8		99.00			110.00	
	9		107.00			120.00	
	10		115.00			130.00	
	11		123.00			140.00	
	12		131.00			150.00	
	13		139.00			160.00	
	14		147.00			170.00	
	15		156.00			180.00	
	16		165.00			190.00	
	17		175.00			200.00	
	18		185.00			210.00	
	19		195.00			220.00	
	20		205.00			230.00	
	21		215.00			240.00	
	22		225.00			250.00	
	23		235.00			260.00	
	24		245.00	315.00		270.00	370.00
	26			325.00			390.00
	28			340.00			410.00
	30			360.00			430.00
	32			380.00			450.00
	34			440.00			510.00
	36			470.00			540.00
	38			540.00			610.00
	40			580.00			650.00
86	8		102.00			114.00	
	9		110.00			124.00	
	10		118.00			134.00	
	11		126.00			144.00	
	12		134.00			154.00	
	13		142.00			164.00	
	14		151.00			175.00	
	15		160.00			186.00	
	16		170.00			197.00	
	17		180.00			207.00	
	18		190.00			217.00	
	19		200.00			227.00	
	20		210.00			237.00	

Diameter, Inches	Face, Inches	SOLID Single Belt	SOLID Double Belt	SOLID Double Arm, Double Belt	SPLIT Single Belt	SPLIT Double Belt	SPLIT Double Arm, Double Belt
Largest Bore at Regular Price 5 7/16"							
86	21		220.00			247.00	
	22		230.00			257.00	
	23		240.00			268.00	
	24		250.00	320.00		279.00	380.00
	26			330.00			400.00
	28			350.00			420.00
	30			370.00			440.00
	32			390.00			460.00
	34			450.00			520.00
	36			480.00			550.00
	38			550.00			620.00
	40			590.00			660.00
Largest Bore at Regular Price 5 7/16"							
88	8		105.00			118.00	
	9		113.00			128.00	
	10		121.00			138.00	
	11		129.00			149.00	
	12		138.00			160.00	
	13		147.00			171.00	
	14		156.00			182.00	
	15		166.00			193.00	
	16		176.00			204.00	
	17		186.00			214.00	
	18		196.00			224.00	
	19		206.00			234.00	
	20		216.00			244.00	
	21		226.00			255.00	
	22		236.00			266.00	
	23		246.00			277.00	
	24		256.00	325.00		288.00	390.00
	26			340.00			410.00
	28			360.00			430.00
	30			380.00			450.00
	32			400.00			470.00
	34			460.00			530.00
	36			490.00			560.00
	38			560.00			630.00
	40			600.00			670.00
Largest Bore at Regular Price 5 7/16"							
90	8		108.00			122.00	
	9		116.00			133.00	
	10		124.00			144.00	
	11		132.00			155.00	
	12		142.00			166.00	
	13		152.00			177.00	
	14		162.00			188.00	
	15		172.00			199.00	
	16		182.00			210.00	
	17		192.00			221.00	
	18		202.00			232.00	
	19		212.00			243.00	
	20		222.00			254.00	
	21		233.00			265.00	

For extra charges for Large Bores, Tight and Loose Pulleys and Flanged Pulleys, see pages 324 to 326. Telegraph Code on page 323.

Machine Molded Pulleys—Continued

Diameter, Inches	Face, Inches	SOLID Single Belt	SOLID Double Belt	SOLID Double Arm, Double Belt	SPLIT Single Belt	SPLIT Double Belt	SPLIT Double Arm, Double Belt
90	22		243.00			276.00	
	23		253.00			287.00	
	24		263.00	330.00		297.00	400.00
	26			350.00			420.00
	28			370.00			440.00
	30			390.00			460.00
	32			410.00			480.00
	34			470.00			540.00
	36			500.00			570.00
	38			570.00			640.00
	40			610.00			680.00
92	8		110.00			127.00	
	9		119.00			138.00	
	10		128.00			149.00	
	11		138.00			160.00	
	12		148.00			171.00	
	13		158.00			182.00	
	14		168.00			193.00	
	15		178.00			204.00	
	16		188.00			216.00	
	17		198.00			227.00	
	18		208.00			238.00	
	19		218.00			249.00	
	20		228.00			260.00	
	21		238.00			271.00	
	22		248.00			282.00	
	23		258.00			294.00	
	24		268.00	340.00		306.00	410.00
	26			360.00			430.00
	28			380.00			450.00
	30			400.00			470.00
	32			420.00			490.00
	34			480.00			550.00
	36			510.00			580.00
	38			580.00			650.00
	40			620.00			690.00
94	8		114.00			132.00	
	9		122.00			143.00	
	10		132.00			154.00	
	11		142.00			165.00	
	12		152.00			176.00	
	13		162.00			187.00	
	14		172.00			198.00	
	15		182.00			210.00	
	16		193.00			222.00	
	17		204.00			233.00	
	18		214.00			244.00	
	19		224.00			255.00	
	20		234.00			266.00	
	21		244.00			278.00	

Largest Bore at Regular Price $5\frac{7}{16}$"

Diameter, Inches	Face, Inches	SOLID Single Belt	SOLID Double Belt	SOLID Double Arm, Double Belt	SPLIT Single Belt	SPLIT Double Belt	SPLIT Double Arm, Double Belt
94	22		254.00			290.00	
	23		264.00			302.00	
	24		274.00	350.00		315.00	420.00
	26			370.00			440.00
	28			390.00			460.00
	30			410.00			480.00
	32			430.00			500.00
	34			490.00			560.00
	36			520.00			590.00
	38			590.00			660.00
	40			630.00			700.00
96	8		117.00			137.00	
	9		125.00			148.00	
	10		136.00			159.00	
	11		147.00			170.00	
	12		157.00			181.00	
	13		167.00			192.00	
	14		177.00			204.00	
	15		187.00			216.00	
	16		198.00			228.00	
	17		210.00			240.00	
	18		221.00			251.00	
	19		231.00			262.00	
	20		241.00			274.00	
	21		251.00			286.00	
	22		261.00			298.00	
	23		271.00			311.00	
	24		281.00	360.00		324.00	430.00
	26			380.00			450.00
	28			400.00			470.00
	30			420.00			490.00
	32			440.00			510.00
	34			500.00			570.00
	36			530.00			600.00
	38			600.00			670.00
	40			640.00			710.00
98	8		120.00			142.00	
	9		128.00			153.00	
	10		140.00			164.00	
	11		152.00			176.00	
	12		162.00			188.00	
	13		172.00			200.00	
	14		182.00			212.00	
	15		192.00			224.00	
	16		204.00			236.00	
	17		216.00			248.00	
	18		227.00			260.00	
	19		238.00			272.00	
	20		249.00			284.00	
	21		260.00			296.00	

Largest Bore at Regular Price $5\frac{7}{16}$"

For extra charges for Large Bores, Tight and Loose Pulleys and Flanged Pulleys, see pages 324 to 326. Telegraph Code on page 323.

Machine Molded Pulleys—Continued

Diameter, Inches	Face, Inches	SOLID Single Belt	SOLID Double Belt	SOLID Double Arm, Double Belt	SPLIT Single Belt	SPLIT Double Belt	SPLIT Double Arm, Double Belt
98	22		270.00			308.00	
	23		280.00			320.00	
	24		290.00			333.00	
	26			390.00			465.00
	28			410.00			485.00
	30			435.00			505.00
	32			460.00			525.00
	34			520.00			585.00
	36			550.00			615.00
	38			620.00			685.00
	40			655.00			725.00
100 Largest Bore at Regular Price $5\frac{7}{16}$"	8		123.00			147.00	
	9		134.00			159.00	
	10		145.00			171.00	
	11		157.00			183.00	
	12		168.00			195.00	
	13		179.00			207.00	
	14		190.00			219.00	
	15		201.00			231.00	
	16		212.00			243.00	
	17		224.00			255 00	
	18		236.00			267.00	
	19		248.00			279.00	
	20		260.00			291.00	
	21		271.00			304.00	
	22		282.00			317.00	
	23		293.00			330.00	
	24		304.00			343.00	
	26			400.00			475.00
	28			420.00			495.00
	30			450.00			520.00
	32			480.00			540.00
	34			540.00			600.00
	36			570.00			630.00
	38			645.00			710.00
	40			680.00			750.00
102 Largest Bore at Regular Price $5\frac{7}{16}$"	8		128.00			152.00	
	9		138.00			164.00	
	10		150.00			176.00	
	11		162.00			188.00	
	12		174.00			200.00	
	13		186.00			213.00	
	14		198.00			226.00	
	15		210.00			239.00	
	16		222.00			252.00	
	17		234.00			265.00	
	18		246.00			278.00	
	19		258.00			291.00	
	20		270.00			304.00	
	21		282.00			317.00	

Diameter, Inches	Face, Inches	SOLID Single Belt	SOLID Double Belt	SOLID Double Arm, Double Belt	SPLIT Single Belt	SPLIT Double Belt	SPLIT Double Arm, Double Belt
102	22		294.00			330.00	
	23		306.00			343.00	
	24		318.00			355.00	
	26			415.00			485.00
	28			440.00			505.00
	30			470.00			535.00
	32			500.00			555.00
	34			560.00			620.00
	36			590.00			650.00
	38			665.00			730.00
	40			700.00			770.00
104 Largest Bore at Regular Price $5\frac{7}{16}$"	8		135.00			158.00	
	9		145.00			170.00	
	10		157.00			182.00	
	11		169.00			195.00	
	12		181.00			208.00	
	13		193.00			221.00	
	14		205.60			234.00	
	15		218.00			247.00	
	16		231.00			260.00	
	17		244.00			273.00	
	18		257.00			286.00	
	19		270.00			300.00	
	20		282.00			314.00	
	21		294.00			328.00	
	22		306.00			342.00	
	23		318.00			356.00	
	24		330.00			370.00	
	26			430.00			495.00
	28			460.00			520.00
	30			490.00			550.00
	32			520.00			570.00
	34			580.00			640.00
	36			610.00			675.00
	38			690.00			755.00
	40			725.00			795.00
106 Largest Bore at Regular Price $5\frac{7}{16}$"	8		142.00			164.00	
	9		152.00			176.00	
	10		164.00			189.00	
	11		176.00			202.00	
	12		188.00			215.00	
	13		200.00			228.00	
	14		212.00			241.00	
	15		225.00			255.00	
	16		239.00			269.00	
	17		252.00			283.00	
	18		267.00			297.00	
	19		281.00			311.00	
	20		295.00			325.00	
	21		308.00			340.00	

For extra charges for Large Bores, Tight and Loose Pulleys and Flanged Pulleys, see pages 324 to 326. Telegraph Code on page 323.

Machine Molded Pulleys—Continued

Diameter, Inches	Face, Inches	SOLID Single Belt	SOLID Double Belt	SOLID Double Arm, Double Belt	SPLIT Single Belt	SPLIT Double Belt	SPLIT Double Arm, Double Belt
106	22		321.00			355.00	
	23		333.00			370.00	
	24		345.00			385.00	
	26			450.00			505.00
	28			480.00			535.00
	30			510.00			565.00
	32			540.00			590.00
	34			600.00			660.00
	36			630.00			695.00
	38			710.00			780.00
	40			750.00			820.00
108	8		150.00			170.00	
	9		160.00			183.00	
	10		172.00			196.00	
	11		184.00			209.00	
	12		196.00			222.00	
	13		208.00			236.00	
	14		220.00			250.00	
	15		233.00			265.00	
	16		246.00			280.00	
	17		260.00			295.00	
	18		274.00			310.00	
	19		289.00			325.00	
	20		304.00			340.00	
	21		318.00			355.00	
	22		332.00			370.00	
	23		346.00			385.00	
	24		360.00			400.00	
	26			470.00			520.00
	28			500.00			550.00
	30			530.00			580.00
	32			560.00			610.00
	34			620.00			685.00
	36			650.00			720.00
	38			730.00			805.00
	40			775.00			845.00
110	8		158.00			176.00	
	9		170.00			190.00	
	10		182.00			205.00	
	11		194.00			220.00	
	12		206.00			235.00	
	13		219.00			250.00	
	14		232.00			265.00	
	15		245.00			280.00	
	16		260.00			295.00	
	17		275.00			310.00	
	18		290.00			325.00	
	19		305.00			340.00	
	20		320.00			355.00	
	21		335.00			370.00	

Largest Bore at Regular Price $5\frac{7}{16}''$

Largest Bore at Regular Price $5\frac{7}{16}''$

Diameter, Inches	Face, Inches	SOLID Single Belt	SOLID Double Belt	SOLID Double Arm, Double Belt	SPLIT Single Belt	SPLIT Double Belt	SPLIT Double Arm, Double Belt
110	22		350.00			386.00	
	23		365.00			402.00	
	24		380.00			418.00	
	26			490.00			545.00
	28			520.00			575.00
	30			550.00			605.00
	32			580.00			640.00
	34			640.00			715.00
	36			675.00			750.00
	38			755.00			835.00
	40			800.00			875.00
112	8		166.00			185.00	
	9		179.00			200.00	
	10		192.00			215.00	
	11		205.00			230.00	
	12		218.00			245.00	
	13		231.00			261.00	
	14		244.00			277.00	
	15		257.00			293.00	
	16		272.00			309.00	
	17		287.00			325.00	
	18		303.00			341.00	
	19		319.00			357.00	
	20		334.00			373.00	
	21		349.00			389.00	
	22		364.00			405.00	
	23		380.00			421.00	
	24		395.00			437.00	
	26			510.00			570.00
	28			545.00			600.00
	30			580.00			635.00
	32			615.00			670.00
	34			680.00			750.00
	36			710.00			790.00
	38			790.00			875.00
	40			840.00			915.00
114	8		175.00			194.00	
	9		188.00			210.00	
	10		202.00			226.00	
	11		216.00			242.00	
	12		230.00			258.00	
	13		243.00			274.00	
	14		256.00			290.00	
	15		269.00			306.00	
	16		284.00			322.00	
	17		300.00			338.00	
	18		316.00			354.00	
	19		332.00			370.00	
	20		348.00			387.00	
	21		363.00			404.00	

Largest Bore at Regular Price $5\frac{7}{16}''$

For extra charges for Large Bores, Tight and Loose Pulleys and Flanged Pulleys, see pages 324 to 326. Telegraph Code on page 323.

Machine Molded Pulleys—Continued

Largest Bore at Regular Price $5\frac{7}{16}$"

Diameter, Inches	Face, Inches	SOLID Single Belt	SOLID Double Belt	SOLID Double Arm, Double Belt	SPLIT Single Belt	SPLIT Double Belt	SPLIT Double Arm, Double Belt
114	22	.....	379.00	.....	.....	421.00	.....
	23	.....	395.00	.....	.....	438.00	.....
	24	.....	410.00	.....	.....	455.00	.....
	26	.....	.....	535.00	.....	.....	605.00
	28	.....	.....	570.00	.....	.....	640.00
	30	.....	.....	605.00	.....	.....	675.00
	32	.....	.....	640.00	.....	.....	710.00
	34	.....	.....	715.00	.....	.....	790.00
	36	.....	.....	745.00	.....	.....	830.00
	38	.....	.....	830.00	.....	.....	915.00
	40	.....	.....	880.00	.....	.....	955.00
116	8	.....	185.00	.....	.....	204.00	.....
	9	.....	198.00	.....	.....	220.00	.....
	10	.....	212.00	.....	.....	236.00	.....
	11	.....	227.00	.....	.....	252.00	.....
	12	.....	242.00	.....	.....	268.00	.....
	13	.....	256.00	.....	.....	285.00	.....
	14	.....	270.00	.....	.....	302.00	.....
	15	.....	284.00	.....	.....	319.00	.....
	16	.....	300.00	.....	.....	336.00	.....
	17	.....	315.00	.....	.....	353.00	.....
	18	.....	330.00	.....	.....	370.00	.....
	19	.....	346.00	.....	.....	387.00	.....
	20	.....	362.00	.....	.....	404.00	.....
	21	.....	378.00	.....	.....	421.00	.....
	22	.....	394.00	.....	.....	438.00	.....
	23	.....	410.00	.....	.....	455.00	.....
	24	.....	425.00	.....	.....	473.00	.....
	26	.....	.....	560.00	.....	.....	620.00
	28	.....	.....	600.00	.....	.....	660.00
	30	.....	.....	640.00	.....	.....	700.00
	32	.....	.....	680.00	.....	.....	740.00
	34	.....	.....	750.00	.....	.....	820.00
	36	.....	.....	780.00	.....	.....	860.00
	38	.....	.....	870.00	.....	.....	950.00
	40	.....	.....	920.00	.....	.....	1000.00
118	8	.....	195.00	.....	.....	216.00	.....
	9	.....	209.00	.....	.....	232.00	.....
	10	.....	223.00	.....	.....	249.00	.....
	11	.....	238.00	.....	.....	266.00	.....
	12	.....	253.00	.....	.....	283.00	.....
	13	.....	268.00	.....	.....	300.00	.....

Largest Bore at Regular Price $5\frac{7}{16}$"

Diameter, Inches	Face, Inches	SOLID Single Belt	SOLID Double Belt	SOLID Double Arm, Double Belt	SPLIT Single Belt	SPLIT Double Belt	SPLIT Double Arm, Double Belt
118	14	.....	283.00	.....	.....	317.00	.....
	15	.....	298.00	.....	.....	334.00	.....
	16	.....	313.00	.....	.....	351.00	.....
	17	.....	328.00	.....	.....	368.00	.....
	18	.....	343.00	.....	.....	386.00	.....
	19	.....	360.00	.....	.....	404.00	.....
	20	.....	376.00	.....	.....	422.00	.....
	21	.....	392.00	.....	.....	440.00	.....
	22	.....	408.00	.....	.....	458.00	.....
	23	.....	424.00	.....	.....	474.00	.....
	24	.....	440.00	.....	.....	492.00	.....
	26	.....	.....	585.00	.....	.....	645.00
	28	.....	.....	625.00	.....	.....	685.00
	30	.....	.....	665.00	.....	.....	725.00
	32	.....	.....	705.00	.....	.....	765.00
	34	.....	.....	785.00	.....	.....	855.00
	36	.....	.....	815.00	.....	.....	900.00
	38	.....	.....	910.00	.....	.....	990.00
	40	.....	.....	960.00	.....	.....	1040.00
120	8	.....	210.00	.....	.....	230.00	.....
	9	.....	225.00	.....	.....	247.00	.....
	10	.....	240.00	.....	.....	264.00	.....
	11	.....	255.00	.....	.....	282.00	.....
	12	.....	270.00	.....	.....	300.00	.....
	13	.....	285.00	.....	.....	318.00	.....
	14	.....	300.00	.....	.....	335.00	.....
	15	.....	315.00	.....	.....	352.00	.....
	16	.....	330.00	.....	.....	369.00	.....
	17	.....	345.00	.....	.....	386.00	.....
	18	.....	360.00	.....	.....	404.00	.....
	19	.....	377.00	.....	.....	422.00	.....
	20	.....	393.00	.....	.....	440.00	.....
	21	.....	409.00	.....	.....	458.00	.....
	22	.....	425.00	.....	.....	476.00	.....
	23	.....	442.00	.....	.....	494.00	.....
	24	.....	460.00	.....	.....	512.00	.....
	26	.....	.....	610.00	.....	.....	670.00
	28	.....	.....	650.00	.....	.....	710.00
	30	.....	.....	690.00	.....	.....	750.00
	32	.....	.....	730.00	.....	.....	790.00
	34	.....	.....	810.00	.....	.....	880.00
	36	.....	.....	850.00	.....	.....	930.00
	38	.....	.....	950.00	.....	.....	1030.00
	40	.....	.....	1000.00	.....	.....	1080.00

For extra charges for Large Bores, Tight and Loose Pulleys and Flanged Pulleys, see pages 324 to 326. Telegraph Code on page 323.

Telegraph Code for Machine Molded Cast Iron Pulleys

Unless otherwise specified, all telegraph orders for pulleys will be understood as calling for crown-face pulleys, single belt (if size ordered is made single belt), and the pulley to be set-screwed.

Diameter, Inches

6	Amerse	23	Ampersand	42	Anyline	74	Analyze
7	Amethyst	24	Amphibian	44	Anabaptist	76	Anamnesis
8	Amiably	25	Amphibolic	46	Anacamptic	78	Anandrous
9	Amicable	26	Amphilogy	48	Anacarde	80	Anapest
10	Amid	27	Amphipod	50	Anachronic	82	Anaphora
11	Amidst	28	Ample	52	Anaclastic	84	Anarchial
12	Amity	29	Ampleness	54	Anagalis	90	Anarchy
13	Amonia	30	Ampliate	56	Anaglyph	96	Anasarca
14	Amnesty	31	Amplifier	58	Anagogy	102	Anathema
15	Amodier	32	Amplitude	60	Anagram	108	Anatocism
16	Amolit	33	Amputate	62	Analene	114	Anatomical
17	Amollir	34	Amuck	64	Analogous	120	Anatomist
18	Amoret	35	Amulet	66	Analogy	126	Anatomy
19	Amorous	36	Amurcosity	68	Analysis	132	Ancestor
20	Amorphe	38	Amusable	70	Analytical	138	Ancestral
21	Amortise	40	Amusement	72	Analyzable	144	Ancestress
22	Amours	..	.....	..	.....	..	.....

Crown Face	Anodyne
Straight Face	Anoint
With Standard Key Seat	Anointer
Single Belt	Anointing
Double Belt	Anomalism
Double Arm	Anomalite
Pair Tight and Loose Pulleys	Anomaly
Flanged Pulleys	Anomalous

Face, Inches

3	Anchorite	9	Anclotes	18	Anemometer	30	Angelic
4	Anchovy	10	Ancolie	20	Anemone	32	Angelical
5	Ancient	11	Andante	22	Anemoscope	34	Angelot
6	Anciently	12	Android	24	Anent	36	Angerness
7	Ancillary	14	Anecdote	26	Aneurism	38	Angiology
8	Ancipitous	16	Anellides	28	Angel	40	Anglais

Bore, Inches

$\frac{15}{16}$	Anglers	$1\frac{7}{8}$	Anhydrous	$2\frac{7}{8}$	Annals	$4\frac{3}{16}$	Annotation
1	Anglican	$1\frac{15}{16}$	Anility	$2\frac{15}{16}$	Anneal	$4\frac{1}{4}$	Annotatory
$1\frac{1}{8}$	Anglicisms	2	Animadvert	3	Annealing	$4\frac{3}{8}$	Annoyer
$1\frac{3}{16}$	Angostura	$2\frac{1}{8}$	Animal	$3\frac{3}{16}$	Annectant	$4\frac{7}{16}$	Annoyance
$1\frac{1}{4}$	Angouleme	$2\frac{3}{16}$	Animalcule	$3\frac{1}{4}$	Annex	$4\frac{1}{2}$	Annoyful
$1\frac{3}{8}$	Angrily	$2\frac{1}{4}$	Animalist	$3\frac{3}{8}$	Annexary	$4\frac{11}{16}$	Annualist
$1\frac{7}{16}$	Angry	$2\frac{3}{8}$	Animated	$3\frac{7}{16}$	Annexation	$4\frac{3}{4}$	Annuitant
$1\frac{1}{2}$	Anguish	$2\frac{7}{16}$	Animating	$3\frac{1}{2}$	Annexment	$4\frac{15}{16}$	Annuity
$1\frac{9}{16}$	Angular	$2\frac{1}{2}$	Animose	$3\frac{11}{16}$	Annihilate	5	Annular
$1\frac{5}{8}$	Angularity	$2\frac{5}{8}$	Animosity	$3\frac{3}{4}$	Annivere	$5\frac{7}{16}$	Annulation
$1\frac{11}{16}$	Angulated	$2\frac{11}{16}$	Anise	$3\frac{7}{8}$	Annodon	$5\frac{1}{2}$	Annulment
$1\frac{3}{4}$	Angustate	$2\frac{3}{4}$	Ankle	$3\frac{15}{16}$	Annolis	$5\frac{15}{16}$	Annunciate
$1\frac{13}{16}$	Anhelation	$2\frac{13}{16}$	Anklebone	4	Annotate	6	Anode

Flanged Pulleys

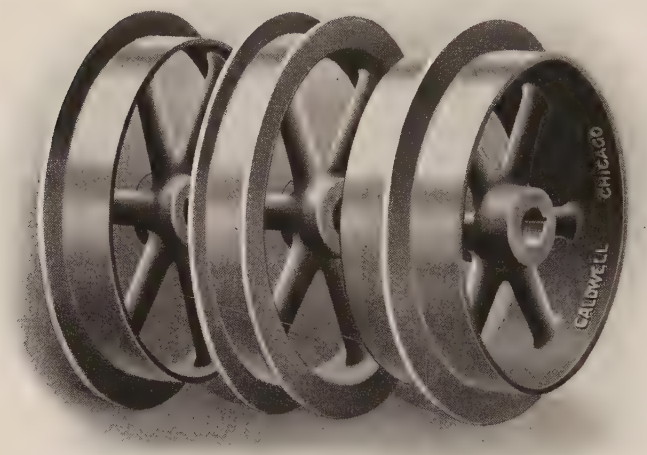


Fig. 45404. (*Landgrafs*)

The following additional charges cover double flanges, not over ¾-inch high and are to be added to the foregoing list prices. If pulleys with single flanges are wanted, add one half of the extra charge below.

Prices for extra high flanges, internal flanges, etc., quoted upon application.

Extra Charges, Subject to Discount

Diameter Inches	Price	Diameter Inches	Price	Diameter Inches	Price
6– 7	$ 2.40	34–35	$20.05	76– 78	$73.75
8– 9	3.10	36–37	21.95	80– 82	79.30
10–11	3.90	38–39	24.10	84– 86	84.75
12–13	4.70	40–41	26.35	88– 90	90.10
14–15	5.65	42–43	28.75	92– 94	95.40
16–17	6.60	44–45	31.30	96– 98	100.85
18–19	7.60	46–47	33.85	100–102	106.00
20–21	8.80	48–50	37.60	104–106	111.80
22–23	10.15	52–54	42.25	108–110	117.15
24–25	11.50	56–58	47.20	112–114	122.35
26–27	13.05	60–62	52.25	116–118	127.35
28–29	14.70	64–66	57.50	120	132.05
30–31	16.40	68–70	62.85		
32–33	18.20	72–74	68.30		

Width of Face of Double Flanged Pulleys is considered as meaning the width of belt to be used. Allowance is made for clearance.

Tight and Loose Pulleys

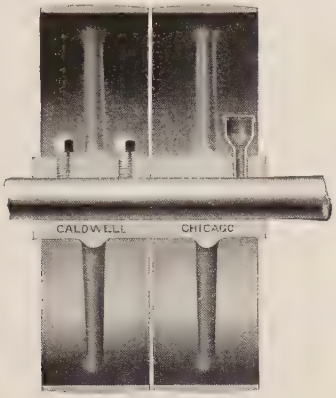


Fig. 45405. (*Landgenoot*)

For light work we furnish loose pulleys smooth bored. For heavier work, the loose pulley should be babbitted.

The extra charges below include the additional lengths of hub for both tight and loose pulleys and the facing of the ends of hubs, also an oil hole, tapped, in the loose pulley. Grease or Oil Cups are not included, because of the great variety in the styles preferred by different customers. Some form of loose pulley oiler must always be used.

Extra charges for tight and loose pulleys where the bores are larger than standards given in the pulley list, quoted upon application.

Loose pulleys will always be furnished with plain smooth bore, not babbitted, unless otherwise specified.

With Loose Pulley Bored

Extra Charges per Pair, Subject to Discount

Diameter, Inches	Face, Inches						
	3 & 4	5 & 6	7 & 8	9 & 10	11 & 12	13 & 14	15 & 16
6 to 9	$1.30	$2.00	$3.00	$4.50	.....	.....	.....
10 to 15	1.50	2.30	3.40	5.00	$7.00	.....	.....
16 to 20	2.10	2.90	4.00	5.50	7.50	.....	.....
21 to 30	3.30	4.10	5.20	6.80	9.10	$12.50	.....
31 to 42	4.50	5.50	6.90	9.00	12.10	16.50	$23.00
43 to 60	6.00	7.40	9.30	12.00	15.80	21.00	29.00

With Loose Pulley Babbitted

Extra Charges per Pair, Subject to Discount

Diameter, Inches	Face, Inches						
	3 & 4	5 & 6	7 & 8	9 & 10	11 & 12	13 & 14	15 & 16
6 to 9	$3.10	$4.20	$5.60	$7.50	.....	.....	.....
10 to 15	3.50	4.70	6.80	8.50	$11.00	.....	.....
16 to 20	4.30	5.70	7.50	9.50	12.00	.....	.....
21 to 30	6.30	7.80	9.50	11.80	14.75	$19.00	.....
31 to 42	8.20	10.00	12.00	15.00	19.00	24.00	$31.25
43 to 60	10.00	12.40	15.30	19.00	23.70	30.00	39.00

Extra Charges for Bores Larger Than Standard

The following percentages are to be added to the list prices of Cast Iron Pulleys, where bores larger than the largest bore at regular price, as specified in the price list, are to be furnished.

Extra Charges, Subject to Discount

Diameter	Extra Charge
6 to 16	10 percent for each ¼-inch or fractional part in excess of regular
17 to 29	10 percent for each ½-inch or fractional part in excess of regular
30 to 60	5 per cent for each ½-inch or fractional part in excess of regular
60 and up	Special prices named on application

Step Cone Pulleys

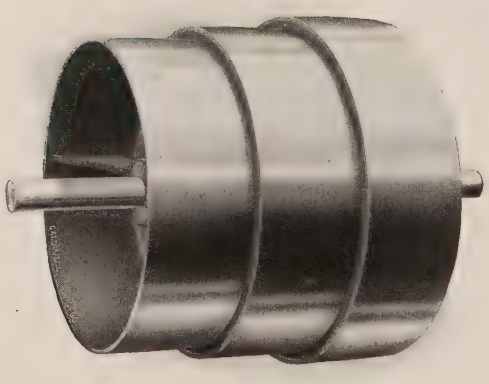


Fig. 45406. (*Landgesetz*)

We are prepared to furnish Step Cone Pulleys of practically any dimensions. Prices upon application.

Wide Face Cast Iron Pulleys

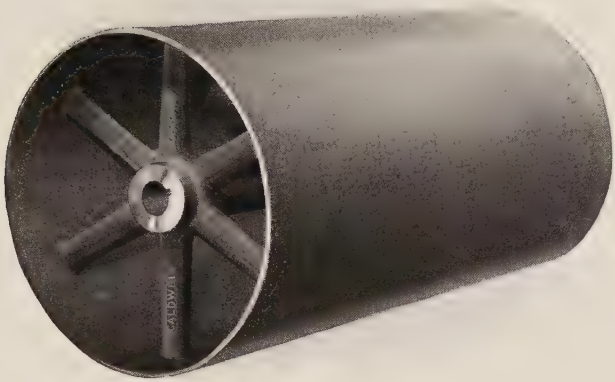


Fig. 45407. (*Luctisona*)

The list below covers pulleys with extra wide faces, such as are used as Head and Foot Pulleys, for Belt Conveyors, etc. These pulleys are cast in one piece and are not made up of several pulleys bolted together.

Price List, Subject to Discount

Diameter, Inches	Face, Inches	Price Each	Diameter, Inches	Face, Inches	Price Each
12	*18	$22.30	20	33	$ 75.00
	20	30.00		39	115.00
	22	32.50		45	140.00
	26	40.00			
	33	60.00	24	33	85.00
				39	130.00
14	*18	22.80		45	160.00
	*20	25.70		51	200.00
	22	35.00			
	26	42.50	30	39	160.00
	33	63.00		45	200.00
				51	250.00
16	*18	23.30			
	*20	26.20	36	39	190.00
	*22	29.20		45	240.00
	26	45.00		51	300.00
	33	67.00			
	39	100.00			
18	*18	23.80	42	45	285.00
	*20	26.70		51	350.00
	*22	29.70			
	26	47.50			
	33	71.00			
	39	107.00	48	45	330.00
	45	130.00		51	400.00

*Sizes marked with a * are Single Arm Pulleys; all other sizes have Double Arms.

For prices of pulleys with faces narrower than in list above, see standard pulley list on preceding pages.

Rubber Covered Pulleys

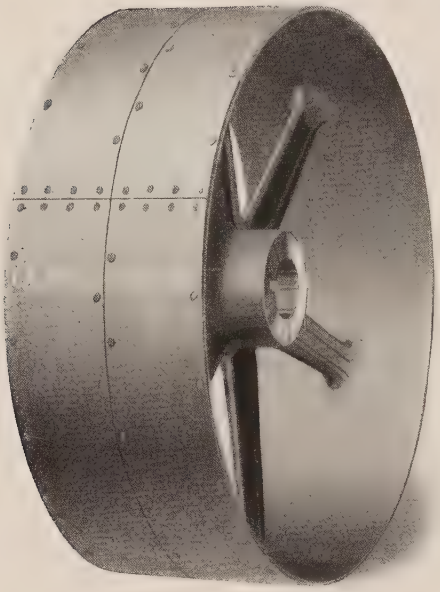


Fig. 45408. (*Adentro*)

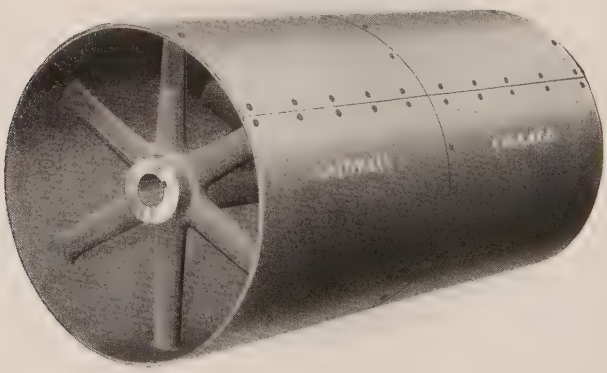


Fig. 45408-A. (*Accone*)

Rubber Covered Pulleys are frequently used as head wheels for long belt conveyors and high elevators, where the traction of the ordinary cast iron pulley is not sufficient to prevent slippage of the belt. The prices on the opposite page include covering with our Extra Grade rubber belt, which is the most suitable for this purpose. The price list includes the belting and the labor of covering, but does not include the pulley.

Prices will be quoted upon pulleys covered with heavier belt or with leather belt, upon application.

Extra Charges for Covering Cast Iron Pulleys

The price list below covers Extra Grade Rubber Belt, the necessary bolts, and the labor of drilling the pulley and attaching the covering. Pulleys are not included. For prices of pulleys, see lists on preceding pages.

With Four-Ply Extra Grade Rubber Belt

Extra Charges, Subject to Discount

Diameter, Inches	Face, Inches						
	12	14	16	20	22	24	26
12	$25.00	$27.50	$31.50	$40.00	$45.00	$50.00	.....
14	27.50	31.50	36.00	45.00	50.00	55.00	$ 60.00
16	30.00	34.50	39.00	50.00	55.00	60.00	65.00
18	32.50	38.00	43.50	54.00	59.00	65.00	70.00
20	35.00	40.50	46.00	58.00	63.50	70.00	75.50
22	37.00	43.00	49.00	61.00	67.00	74.00	80.00
24	39.00	45.50	52.00	65.00	71.50	78.00	84.50
30	47.00	55.00	63.00	78.00	86.00	94.00	102.00
36	54.50	63.50	72.50	91.00	100.00	109.00	118.00
42	62.50	73.00	83.50	104.50	115.00	125.00	135.50
48	70.00	81.50	93.00	116.00	128.00	140.00	152.00
54	77.00	90.00	103.00	128.00	141.00	154.00	167.00
60	85.00	99.00	113.00	142.00	156.00	170.00	184.00
72	101.00	118.00	135.00	168.00	185.00	202.00	219.00
84	117.00	137.00	157.00	195.00	215.00	235.00	255.00
96	134.00	156.00	178.00	224.00	246.00	268.00	290.00

Diameter, Inches	Face, Inches						
	28	30	32	34	36	38	40
14	$63.00	.....	.....	.....	.....	.....	.....
16	69.00	$73.50	$78.00	.....	.....	.....	.....
18	76.00	81.00	87.00	$93.00	$99.00	.....	.....
20	81.00	86.50	92.00	98.00	104.00	$110.00	$116.00
22	86.00	92.00	98.00	104.00	110.00	116.00	122.00
24	91.00	97.50	104.00	110.00	116.00	123.00	130.00
30	110.00	118.00	126.00	134.00	141.00	148.00	156.00
36	127.00	136.00	145.00	154.00	163.00	172.00	182.00
42	146.00	156.50	167.00	177.50	188.00	198.50	209.00
48	164.00	175.00	186.00	198.00	210.00	222.00	234.00
54	180.00	193.00	206.00	219.00	232.00	245.00	258.00
60	198.00	212.00	226.00	240.00	254.00	268.00	282.00
72	236.00	253.00	270.00	287.00	304.00	321.00	338.00
84	275.00	295.00	315.00	335.00	355.00	375.00	395.00
96	312.00	334.00	356.00	378.00	401.00	424.00	448.00

In telegraphing, use code for Cast Iron Pulleys, page 323, and follow with code word Lijnvormig.

Expansion Friction Clutch Pulleys

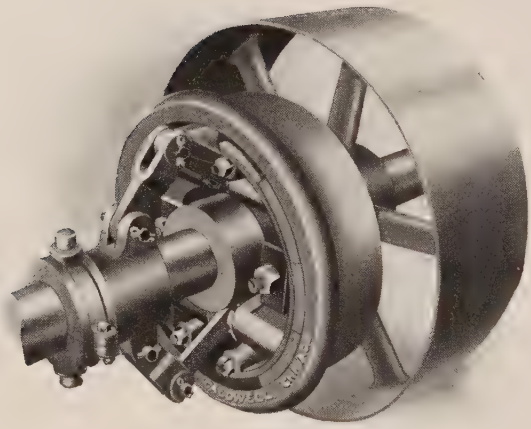


Fig. 45409. (*Drilo*)

The Expansion Friction Clutch is particularly adapted for slow speeds and where the starting twist is very heavy. The clutch is compact, easily adjusted, and will operate satisfactorily under very severe conditions.

To determine the price of an Expansion Clutch Pulley, to the price of a cast iron pulley, with bore large enough to fit over the sleeve of clutch, add the price of an Expansion Friction Clutch with extended sleeve of proper length, as given on page 727. Be sure the clutch is of ample size to transmit the power required, and that it will bore as large as the shaft to be used.

If brass or bronze bushing is wanted in place of babbitted bore in the sleeve, use list on page 344 for extra charge.

Double Disc Friction Clutch Pulleys

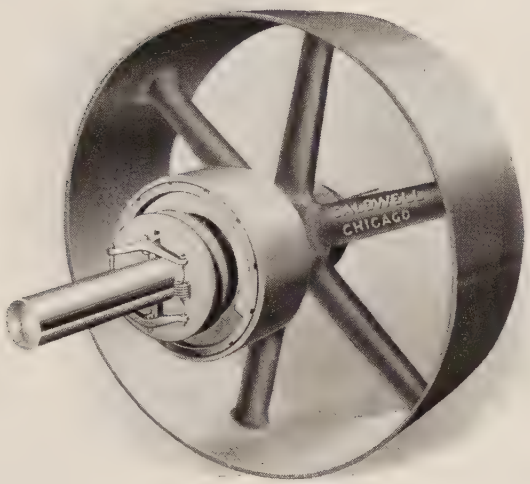


Fig. 45410. (*Landgueter*)

The Double Disc Friction Clutch is particularly adapted for high speeds and severe service. The friction plates are fitted with cork inserts and run in oil. The clutch can be set to slip at a certain overload, in order to protect the machinery from damage, and will slip for a considerable length of time without overheating. For a more complete description of this clutch, see pages 731 to 739.

To determine the price of a Double Disc Friction Clutch Pulley, add to the price of the proper size of clutch to transmit the power required, with sleeve, as given on pages 736 and 737, the price of cast iron pulley with bore of proper size to fit over sleeve. For proper length of sleeve, see dimensions on pages 736 and 737. For standard outside diameters of sleeves, to be used in determining proper bore of pulley, see dimensions on page 739.

If brass or bronze bushing is wanted in place of babbitted bore in sleeve, use list on page 344 for extra charge.

Contracting Ring Friction Clutch Pulleys

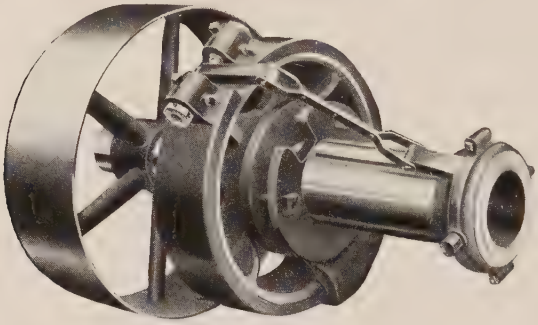


Fig. 45411. (*Landhandel*)

The Contracting Ring Clutch is only made for small pulleys and is an inexpensive and effective clutch for light work. The friction contact is iron upon iron, the outer ring contracting upon the inner. Ordinarily the sleeve is bored not babbitted, but can be furnished babbitted or bronze bushed if desired. Prices on application.

Standard Friction Clutch Pulley, with Special Flange Construction

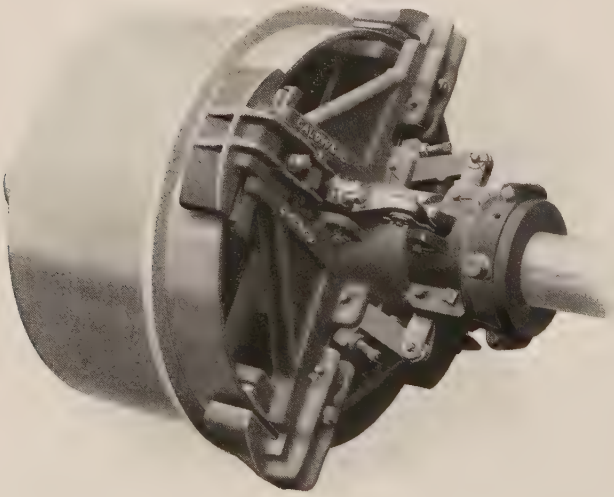


Fig. 45412. (*Lappohr*)

This construction is used where the clutch ring and the pulley are approximately the same diameter. Description and price lists on the following pages.

Standard Friction Clutch Pulleys

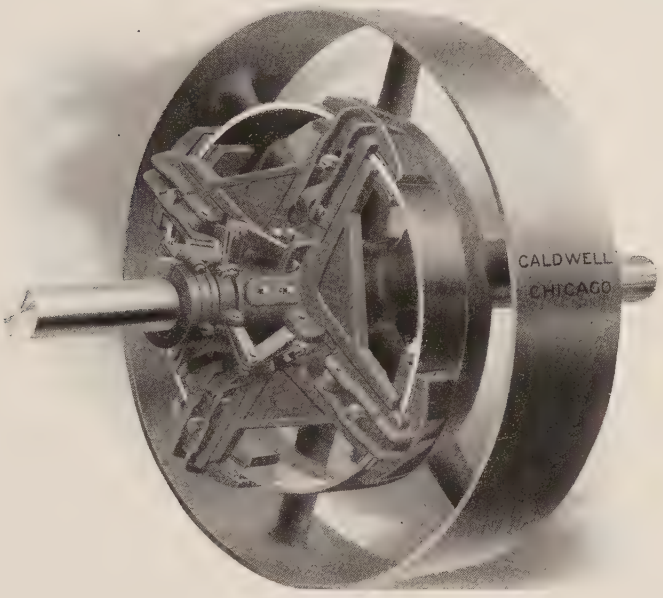


Fig. 45413. (*Landgut*)

Our Standard Friction Clutch is of a type that has been used for many years and has proved entirely satisfactory in all kinds of service. It is easily adjusted even by unskilled mechanics, and the clutch shoes and other wearing parts can be readily replaced. The wooden clutch shoes grip both sides of the clutch ring, which is of cast iron. The clutch ring is a part of the pulley casting.

We regularly furnish these clutch pulleys with split removable babbitted cast iron bushings, which can be replaced without removing the pulley from the shaft, in case of wear. For unusually severe service brass or bronze bushings can be furnished at additional charge.

Wooden clutch shoes are entirely satisfactory up to a rubbing speed of 3000 feet per minute (rim speed of clutch ring). For greater speeds we can furnish special fibre shoes at additional charge.

The price list on the following pages is based on clutches which will transmit the full horse power of the double belt pulleys, when used with open double belts. The diameter of the clutch furnished at the regular price is given in the list. Heavier clutches can be used if desired, where the service is unusually heavy. Prices of such special clutch pulleys will be named on application.

Standard Friction Clutch Pulleys

Price List, Subject to Discount

Size of Pulley, Inches	CODE WORD For Size	Price, Solid	Price, Split	Maximum Standard Bores, Inches	Space Required on Shaft		Diam. of Clutch Regularly Used, Inches	Number of Arms
					Pulley, Inches	Clutch, Inches		
*12x3	Levasseur	$109.00	$125.00	2 15/16	5 3/4	8 1/2	12	3
* 4	Levationis	113.00	129.00	2 15/16	6 3/4	8 1/2	12	3
* 5	Levatore	117.00	133.00	2 15/16	7 3/4	8 1/2	12	3
* 6	Levaturae	121.00	137.00	2 15/16	8 3/4	8 1/2	12	3
* 7	Levaturus	125.00	141.00	2 15/16	9 3/4	8 1/2	12	3
*13x3	Levaverim	109.00	125.00	2 15/16	5 3/4	8 1/2	12	3
* 4	Levellism	113.00	129.00	2 15/16	6 3/4	8 1/2	12	3
* 5	Levelness	117.00	133.00	2 15/16	7 3/4	8 1/2	12	3
* 6	Levemente	121.00	137.00	2 15/16	8 3/4	8 1/2	12	3
* 7	Levenloos	125.00	141.00	2 15/16	9 3/4	8 1/2	12	3
*14x3	Levensadem	109.00	125.00	2 15/16	5 3/4	8 1/2	12	3
* 4	Levensboek	113.00	129.00	2 15/16	6 3/4	8 1/2	12	3
* 5	Levensboom	117.00	133.00	2 15/16	7 3/4	8 1/2	12	3
* 6	Levensbron	121.00	137.00	2 15/16	8 3/4	8 1/2	12	3
* 7	Levensdoel	125.00	141.00	2 15/16	9 3/4	8 1/2	12	3
*15x3	Levenskelk	109.00	125.00	2 15/16	5 3/4	8 1/2	12	3
* 4	Levenslamp	113.00	129.00	2 15/16	6 3/4	8 1/2	12	3
* 5	Levensleer	117.00	133.00	2 15/16	7 3/4	8 1/2	12	3
* 6	Levensloop	121.00	137.00	2 15/16	8 3/4	8 1/2	12	3
* 7	Levenspad	125.00	141.00	2 15/16	9 3/4	8 1/2	12	3
*16x3	Levenssap	109.00	125.00	2 15/16	5 3/4	8 1/2	12	3
* 4	Levensvlam	113.00	129.00	2 15/16	6 3/4	8 1/2	12	3
* 5	Levenszat	117.00	133.00	2 15/16	7 3/4	8 1/2	12	3
* 6	Leventje	121.00	137.00	2 15/16	8 3/4	8 1/2	12	3
* 7	Leverais	125.00	141.00	2 15/16	9 3/4	8 1/2	12	3
17x3	Leverband	104.00	118.00	2 15/16	6	8 1/2	12	3
4	Leverbloem	107.00	122.00	2 15/16	6	8 1/2	12	3
5	Leverbot	110.00	126.00	2 15/16	8	8 1/2	12	3
6	Leverdicht	113.00	130.00	2 15/16	8	8 1/2	12	3
* 7	Leveren	137.00	154.00	3 7/16	10	10 1/4	15	3
* 8	Leverkleur	141.00	159.00	3 7/16	11	10 1/4	15	3
* 9	Leverkwaal	145.00	164.00	3 7/16	12	10 1/4	15	3
18x3	Leverloop	104.00	118.00	2 15/16	6	8 1/2	12	3
4	Levermes	107.00	122.00	2 15/16	6	8 1/2	12	3
5	Levernet	110.00	126.00	2 15/16	8	8 1/2	12	3
6	Leverpoort	113.00	130.00	2 15/16	8	8 1/2	12	3
* 7	Levertjes	137.00	154.00	3 7/16	10	10 1/4	15	3
* 8	Levervloed	141.00	159.00	3 7/16	11	10 1/4	15	3
* 9	Leverworst	145.00	164.00	3 7/16	12	10 1/4	15	3
19x3	Leverzucht	104.00	118.00	2 15/16	6	8 1/2	12	3
4	Levesells	107.00	122.00	2 15/16	6	8 1/2	12	3
5	Levezinho	110.00	126.00	2 15/16	8	8 1/2	12	3
* 6	Leviable	133.00	149.00	3 7/16	9	10 1/4	15	3
* 7	Levianimam	137.00	154.00	3 7/16	10	10 1/4	15	3
* 8	Levianimi	141.00	159.00	3 7/16	11	10 1/4	15	3
* 9	Levianimos	167.00	185.00	3 7/16	12 1/4	12	18	4
20x3	Leviathan	105.00	119.00	2 15/16	6	8 1/2	12	3
4	Levibus	108.00	123.00	2 15/16	6	8 1/2	12	3

*Special Flanged Pulleys, see Figure 45412, page 332.

Friction Clutch Pulleys are regularly furnished with split babbitted cast iron bushings. Split brass or bronze bushings can be furnished at additional charge.

Standard Friction Clutch Pulleys—Continued

Price List, Subject to Discount

Size of Pulley, Inches	CODE WORD For Size	Price, Solid	Price, Split	Maximum Standard Bores, Inches	Space Required on Shaft		Diam. of Clutch Regularly Used, Inches	Number of Arms
					Pulley, Inches	Clutch, Inches		
20x5	Levicoste	$111.00	$127.00	2 15/16	8	8 1/2	12	3
6	Leviculis	128.00	144.00	3 7/16	8	10 1/4	15	3
7	Leviculum	132.00	149.00	3 7/16	9	10 1/4	15	3
8	Levidense	136.00	154.00	3 7/16	10	10 1/4	15	3
* 9	Levidensis	168.00	185.00	3 7/16	12 1/4	12	18	4
* 10	Leviez	174.00	192.00	3 7/16	13 5/8	12	18	4
* 11	Levigabunt	203.00	225.00	3 15/16	14 3/4	12 1/2	20	4
21x3	Levigacao	105.00	119.00	2 15/16	6	8 1/2	12	3
4	Levigais	108.00	123.00	2 15/16	6	8 1/2	12	3
5	Levigammo	111.00	127.00	2 15/16	8	8 1/2	12	3
6	Levigarent	128.00	144.00	3 7/16	8	10 1/4	15	3
7	Levigarono	132.00	149.00	3 7/16	9	10 1/4	15	3
* 8	Levigassi	164.00	180.00	3 7/16	11 1/4	12	18	4
* 9	Levigata	168.00	185.00	3 7/16	12 1/4	12	18	4
* 10	Levigateur	174.00	192.00	3 7/16	13 1/4	12	18	4
* 11	Levigatos	203.00	225.00	3 15/16	14 3/4	12 1/2	20	4
22x3	Levigatura	105.00	119.00	2 15/16	6	8 1/2	12	3
4	Levigavamo	108.00	123.00	2 15/16	6	8 1/2	12	3
5	Levigavate	125.00	140.00	3 7/16	8	10 1/4	15	3
6	Levigherai	128.00	144.00	3 7/16	8	10 1/4	15	3
7	Levighiamo	132.00	149.00	3 7/16	9	10 1/4	15	3
8	Leviginabo	159.00	176.00	3 7/16	10	12	18	4
* 9	Leviginant	168.00	185.00	3 7/16	12 1/4	12	18	4
* 10	Leviginet	198.00	220.00	3 15/16	13 3/4	12 1/2	20	4
* 11	Leviguemos	203.00	225.00	3 15/16	14 3/4	12 1/2	20	4
23x3	Levions	106.00	120.00	2 15/16	6	8 1/2	12	3
4	Levipede	109.00	124.00	2 15/16	6	8 1/2	12	3
5	Levipedis	126.00	141.00	3 7/16	8	10 1/4	15	3
6	Levirat	129.00	145.00	3 7/16	8	10 1/4	15	3
7	Leviration	157.00	173.00	3 7/16	10	12	18	4
8	Levirorum	160.00	177.00	3 7/16	10	12	18	4
9	Levisane	163.00	181.00	3 7/16	11	12	18	4
* 10	Levisomnis	200.00	223.00	3 15/16	13 3/4	12 1/2	20	4
* 11	Levisomnum	205.00	228.00	3 15/16	14 3/4	12 1/2	20	4
24x3	Levisticum	106.00	120.00	2 15/16	6	8 1/2	12	3
4	Levitarum	109.00	124.00	2 15/16	6	8 1/2	12	3
5	Levitating	126.00	141.00	3 7/16	8	10 1/4	15	3
6	Levitiche	129.00	145.00	3 7/16	8	10 1/4	15	3
7	Levitico	157.00	173.00	3 7/16	10	12	18	4
8	Levitidis	160.00	177.00	3 7/16	10	12	18	4
* 9	Levitique	195.00	218.00	3 15/16	12 3/4	12 1/2	20	4
* 10	Levitones	200.00	223.00	3 15/16	13 3/4	12 1/2	20	4
* 11	Levraude	205.00	228.00	3 15/16	14 3/4	12 1/2	20	4
* 12	Levrateau	210.00	234.00	3 15/16	15 3/4	12 1/2	20	4
25x3	Levrette	107.00	121.00	2 15/16	6	8 1/2	12	3
4	Levriche	110.00	125.00	2 15/16	6	8 1/2	12	3
5	Levrier	127.00	142.00	3 7/16	8	10 1/4	15	3
6	Levuline	130.00	146.00	3 7/16	8	10 1/4	15	3
7	Levulose	158.00	175.00	3 7/16	10	12	18	4

*Special Flanged Pulleys, see Figure 45412, page 332.

Friction Clutch Pulleys are regularly furnished with split babbitted cast iron bushings. Split brass or bronze bushings can be furnished at additional charge.

Standard Friction Clutch Pulleys—Continued

Price List, Subject to Discount

Size of Pulley, Inches	CODE WORD For Size	Price, Solid	Price, Split	Maximum Standard Bores, Inches	Space Required on Shaft		Diam. of Clutch Regularly Used, Inches	Number of Arms
					Pulley, Inches	Clutch, Inches		
25x8	Levying	$161.00	$179.00	3 7/16	10	12	18	4
9	Lewisie	188.00	210.00	3 15/16	11	12½	20	4
10	Lewisson	192.00	215.00	3 15/16	12	12½	20	4
11	Lexiarca	196.00	220.00	3 15/16	12	12½	20	4
* 12	Lexiarque	220.00	255.00	3 15/16	16	14	22	4
26x3	Lexical	107.00	121.00	2 15/16	6	8½	12	3
4	Lexically	124.00	138.00	3 7/16	8	10¼	15	3
5	Lexicology	127.00	142.00	3 7/16	8	10¼	15	3
6	Lexidiorum	156.00	172.00	3 7/16	10	12	18	4
7	Lexigraphy	158.00	176.00	3 7/16	10	12	18	4
8	Lexilogie	184.00	205.00	3 15/16	11	12½	20	4
9	Lexiphanic	188.00	210.00	3 15/16	11	12½	20	4
10	Lexique	192.00	215.00	3 15/16	12	12½	20	4
11	Lexoviorum	196.00	220.00	3 15/16	12	12½	20	4
* 12	Leycestrie	220.00	255.00	3 15/16	16	14	22	4
* 14	Lezardait	230.00	267.00	3 15/16	18	14	22	4
* 16	Lezardelle	260.00	300.00	4 7/16	20¼	14½	24	4
27x3	Lezenaars	108.00	122.00	2 15/16	6	8½	12	3
4	Lezeressen	126.00	140.00	3 7/16	8	10¼	15	3
5	Lezioncina	129.00	144.00	3 7/16	8	10¼	15	3
6	Liability	157.00	174.00	3 7/16	10	12	18	4
7	Liableness	160.00	178.00	3 7/16	10	12	18	4
8	Liadouro	186.00	207.00	3 15/16	11	12½	20	4
9	Liaison	190.00	212.00	3 15/16	11	12½	20	4
10	Liandarum	194.00	217.00	3 15/16	12	12½	20	4
11	Liassions	198.00	222.00	3 15/16	12	12½	20	4
12	Liasstein	213.00	248.00	3 15/16	13	14	22	4
14	Liatico	218.00	256.00	3 15/16	14	14	22	4
* 16	Liaturarum	265.00	305.00	4 7/16	20¼	14½	24	4
28x3	Liaturis	109.00	123.00	2 15/16	6	8½	12	3
4	Liaveramus	127.00	142.00	3 7/16	8	10¼	15	3
5	Liaveritis	130.00	146.00	3 7/16	8	10¼	15	3
6	Libabamus	159.00	176.00	3 7/16	10	12	18	4
7	Libabit	162.00	180.00	3 7/16	10	12	18	4
8	Libabitis	188.00	209.00	3 15/16	11	12½	20	4
9	Libabunt	192.00	214.00	3 15/16	11	12½	20	4
10	Libadiorum	196.00	219.00	3 15/16	12	12½	20	4
11	Libage	210.00	245.00	3 15/16	13	14	22	4
12	Libandorum	215.00	250.00	3 15/16	13	14	22	4
14	Libanella	220.00	258.00	3 15/16	14	14	22	4
* 16	Libanien	270.00	310.00	4 7/16	20¼	14½	24	4
29x3	Libanius	110.00	124.00	2 15/16	6	8½	12	3
4	Libanochro	129.00	144.00	3 7/16	8	10¼	15	3
5	Libanon	132.00	148.00	3 7/16	8	10¼	15	3
6	Libanotide	161.00	178.00	3 7/16	10	12	18	4
7	Libant	164.00	182.00	3 7/16	10	12	18	4
8	Libantem	190.00	211.00	3 15/16	11	12½	20	4
9	Libarium	194.00	216.00	3 15/16	11	12½	20	4
10	Libasti	198.00	221.00	3 15/16	12	12½	20	4
11	Libatarum	212.00	247.00	3 15/16	13	14	22	4

*Special Flanged Pulleys, see Figure 45412, page 332.

Friction clutch pulleys are regularly furnished with split babbitted cast iron bushings. Split brass or bronze bushings can be furnished at additional charge.

Standard Friction Clutch Pulleys—Continued

Price List, Subject to Discount

Size of Pulley, Inches	CODE WORD For Size	Price, Solid	Price, Split	Maximum Standard Bores, Inches	Space Required on Shaft		Diam. of Clutch Regularly Used, Inches	Number of Arms
					Pulley, Inches	Clutch, Inches		
29x12	Libation	$217.00	$252.00	3 15/16	13	14	22	4
* 14	Libationem	260.00	300.00	4 7/16	18¼	14½	24	4
* 16	Libationis	275.00	315.00	4 7/16	20¼	14½	24	4
30x3	Libatorio	111.00	125.00	2 15/16	6	8½	12	3
4	Libatrice	130.00	145.00	3 7/16	8	10¼	15	3
5	Libaturi	133.00	149.00	3 7/16	8	10¼	15	3
6	Libaturos	162.00	179.00	3 7/16	10	12	18	4
7	Libaverat	188.00	209.00	3 15/16	11	12½	20	4
8	Libaverunt	192.00	213.00	3 15/16	11	12½	20	4
9	Libavimus	196.00	218.00	3 15/16	11	12½	20	4
10	Libavio	200.00	223.00	3 15/16	12	12½	20	4
11	Libavisses	214.00	249.00	3 15/16	13	14	22	4
12	Libavisti	219.00	254.00	3 15/16	13	14	22	4
14	Libecchio	240.00	280.00	4 7/16	14	14½	24	4
16	Libecciata	255.00	295.00	4 7/16	16	14½	24	4
* 18	Libelatico	340.00	390.00	4 15/16	22½	15	28	4
31x4	Libellant	131.00	146.00	3 7/16	8	10¼	15	3
5	Libellaris	134.00	150.00	3 7/16	8	10¼	15	3
6	Libellarum	163.00	180.00	3 7/16	10	12	18	4
7	Libellensi	189.00	210.00	3 15/16	11	12½	20	4
8	Libeller	193.00	214.00	3 15/16	11	12½	20	4
9	Libellinha	197.00	219.00	3 15/16	11	12½	20	4
10	Libellioni	210.00	245.00	3 15/16	13	14	22	4
11	Libelliste	215.00	250.00	3 15/16	13	14	22	4
12	Libellous	220.00	255.00	3 15/16	13	14	22	4
14	Libellula	242.00	282.00	4 7/16	14	14½	24	4
* 16	Libellulos	330.00	380.00	4 15/16	20½	15	28	4
* 18	Libentibus	345.00	395.00	4 15/16	22½	15	28	4
32x4	Libentine	132.00	147.00	3 7/16	8	10¼	15	3
5	Libentiose	161.00	177.00	3 7/16	10	12	18	4
6	Liberabit	164.00	181.00	3 7/16	10	12	18	4
7	Liberacion	190.00	211.00	3 15/16	11	12½	20	4
8	Liberal	194.00	215.00	3 15/16	11	12½	20	4
9	Liberalao	198.00	220.00	3 15/16	11	12½	20	4
10	Liberaleza	211.00	246.00	3 15/16	13	14	22	4
11	Liberalism	216.00	251.00	3 15/16	13	14	22	4
12	Liberalium	221.00	256.00	3 15/16	13	14	22	4
14	Liberalone	245.00	285.00	4 7/16	14	14½	24	4
* 16	Liberandos	335.00	385.00	4 15/16	20½	15	28	4
* 18	Liberandum	350.00	400.00	4 15/16	22½	15	28	4
33x4	Liberano	133.00	148.00	3 7/16	8	10¼	15	3
5	Liberanza	162.00	178.00	3 7/16	10	12	18	4
6	Liberarent	165.00	182.00	3 7/16	10	12	18	4
7	Liberasse	191.00	212.00	3 15/16	11	12½	20	4
8	Liberating	195.00	216.00	3 15/16	11	12½	20	4
9	Liberativo	199.00	221.00	3 15/16	11	12½	20	4
10	Liberatore	212.00	247.00	3 15/16	13	14	22	4
11	Liberatrix	217.00	252.00	3 15/16	13	14	22	4
12	Liberavano	222.00	257.00	3 15/16	13	14	22	4
14	Libercolo	248.00	288.00	4 7/16	14	14½	24	4

*Special Flanged Pulleys, see Figure 45412, page 332.

Friction Clutch Pulleys are regularly furnished with split babbitted cast iron bushings. Split brass or bronze bushings can be furnished at additional charge.

Standard Friction Clutch Pulleys—Continued

Price List, Subject to Discount

Size of Pulley, Inches	CODE WORD For Size	Price, Solid	Price, Split	Maximum Standard Bores, Inches	Space Required on Shaft		Diam. of Clutch Regularly Used, Inches	Number of Arms
					Pulley, Inches	Clutch Inches		
*33x16	Libertaba	$340.00	$390.00	4 15/16	20½	15	28	4
* 18	Libertacao	355.00	405.00	4 15/16	22½	15	28	4
34x4	Libertad	134.00	149.00	3 7/16	8	10¼	15	3
5	Libertador	163.00	179.00	3 7/16	10	12	18	3
6	Libertamos	166.00	183.00	3 7/16	10	12	18	3
7	Libertaron	192.00	213.00	3 15/16	11	12½	20	4
8	Libertelle	196.00	217.00	3 15/16	11	12½	20	4
9	Libertiner	209.00	243.00	3 15/16	13	14	22	4
10	Libertino	213.00	248.00	3 15/16	13	14	22	4
11	Liberty	218.00	253.00	3 15/16	13	14	22	4
12	Libethra	240.00	278.00	4 7/16	13	14½	24	4
14	Libethrus	250.00	291.00	4 7/16	14	14½	24	4
16	Libisosa	319.00	370.00	4 15/16	16	15	28	4
18	Libitum	337.00	390.00	4 15/16	18	15	28	4
35x4	Libogno	135.00	150.00	3 7/16	8	10¼	15	3
5	Libonotos	164.00	180.00	3 7/16	10	12	18	4
6	Libonotum	189.00	210.00	3 15/16	11	12½	20	4
7	Libouret	193.00	214.00	3 15/16	11	12½	20	4
8	Librabis	197.00	218.00	3 15/16	11	12½	20	4
9	Librabitur	210.00	244.00	3 15/16	13	14	22	4
10	Libracao	214.00	249.00	3 15/16	13	14	22	4
11	Libradiga	219.00	254.00	3 15/16	13	14	22	4
12	Libramen	242.00	280.00	4 7/16	13	14½	24	4
14	Libramento	303.00	353.00	4 15/16	14	15	28	4
16	Libramina	321.00	373.00	4 15/16	16	15	28	4
18	Libraminis	339.00	393.00	4 15/16	18	15	28	4
36x4	Librarian	136.00	151.00	3 7/16	8	10¼	15	3
5	Library	165.00	181.00	3 7/16	10	12	18	4
6	Libraseis	190.00	211.00	3 15/16	11	12½	20	4
7	Librason	194.00	215.00	3 15/16	11	12½	20	4
8	Librated	198.00	219.00	3 15/16	11	12½	20	4
9	Librations	211.00	245.00	3 15/16	13	14	22	4
10	Libratores	215.00	250.00	3 15/16	13	14	22	4
11	Libratory	220.00	255.00	3 15/16	13	14	22	4
12	Librattolo	245.00	282.00	4 7/16	13	14½	24	4
14	Libratura	306.00	356.00	4 15/16	14	15	28	4
16	Libraturis	324.00	376.00	4 15/16	16	15	28	4
18	Libravi	342.00	396.00	4 15/16	18	15	28	4
38x4	Libretines	138.00	153.00	3 7/16	8	10¼	15	3
5	Librettine	167.00	183.00	3 7/16	10	12	18	4
6	Libretto	193.00	214.00	3 15/16	11	12½	20	4
7	Libriger	197.00	218.00	3 15/16	11	12½	20	4
8	Librigeros	201.00	222.00	3 15/16	11	12½	20	4
9	Librigerum	214.00	248.00	3 15/16	11	14	22	4
10	Librile	218.00	253.00	3 15/16	12	14	22	4
11	Librilibus	245.00	280.00	4 7/16	13	14½	24	4
12	Librilis	250.00	286.00	4 7/16	13	14½	24	4
14	Libripendi	312.00	362.00	4 15/16	14	15	28	4
16	Librone	330.00	382.00	4 15/16	16	15	28	4
18	Libruzzo	348.00	402.00	4 15/16	18	15	28	4

*Special Flanged Pulleys, see Figure 45412, page 332.

Friction Clutch Pulleys are regularly furnished with split babbitted cast iron bushings. Split brass or bronze bushings can be furnished at additional charge.

Standard Friction Clutch Pulleys—Continued

Price List, Subject to Discount

Size of Pulley, Inches	CODE WORD For Size	Price, Solid	Price, Split	Maximum Standard Bores, Inches	Space Required on Shaft		Diam. of Clutch Regularly Used, Inches	Number of Arms
					Pulley, Inches	Clutch, Inches		
*38x20	Libuam	$428.00	$488.00	4 15/16	25	16½	32	4
* 22	Liburna	446.00	508.00	4 15/16	27	16½	32	4
40x4	Liburnatos	165.00	182.00	3 7/16	10	12	18	4
5	Liburnatum	169.00	186.00	3 7/16	10	12	18	4
6	Liburnien	196.00	217.00	3 15/16	11	12½	20	4
7	Liburnorum	200.00	221.00	3 15/16	11	12½	20	4
8	Liburnos	214.00	246.00	3 15/16	13	14	22	4
9	Libussa	218.00	251.00	3 15/16	13	14	22	4
10	Libyque	245.00	280.00	4 7/16	13	14½	24	4
11	Libystidem	250.00	285.00	4 7/16	13	14½	24	4
12	Libystidis	305.00	348.00	4 15/16	13	15	28	4
14	Libystinos	318.00	368.00	4 15/16	14	15	28	4
16	Licanie	336.00	388.00	4 15/16	16	15	28	4
18	Licantropo	394.00	450.00	4 15/16	18	16½	32	4
20	Licensable	412.00	470.00	4 15/16	20	16½	32	4
22	Licensed	430.00	490.00	4 15/16	22	16½	32	4
42x4	Licensure	167.00	184.00	3 7/16	10	12	18	4
5	Licentiate	195.00	216.00	3 15/16	11	12½	20	4
6	Licenziano	199.00	220.00	3 15/16	11	12½	20	4
7	Licenzio	203.00	224.00	3 15/16	11	12½	20	4
8	Licessit	218.00	249.00	3 15/16	13	14	22	4
9	Lichaam	222.00	254.00	3 15/16	13	14	22	4
10	Lichades	250.00	285.00	4 7/16	13	14½	24	4
11	Lichamen	255.00	290.00	4 7/16	13	14½	24	4
12	Lichanos	311.00	354.00	4 15/16	13	15	28	4
14	Lichenace	324.00	374.00	4 15/16	14	15	28	4
16	Lichenato	342.00	394.00	4 15/16	16	15	28	4
18	Lichenicos	400.00	456.00	4 15/16	18	16½	32	4
20	Lichenique	418.00	476.00	4 15/16	20	16½	32	4
22	Lichenis	436.00	496.00	4 15/16	22	16½	32	4
44x4	Lichenops	169.00	186.00	3 7/16	10	12	18	4
5	Lichenous	198.00	219.00	3 15/16	11	12½	20	4
6	Lichinacao	202.00	223.00	3 15/16	11	12½	20	4
7	Lichino	218.00	247.00	3 15/16	13	14	22	4
8	Lichtarm	222.00	252.00	3 15/16	13	14	22	4
9	Lichtbad	226.00	257.00	3 15/16	13	14	22	4
10	Lichtbades	255.00	290.00	4 7/16	13	14½	24	4
11	Lichtbild	308.00	345.00	4 15/16	13	15	28	4
12	Lichtblick	317.00	360.00	4 15/16	13	15	28	4
14	Lichtblume	330.00	380.00	4 15/16	14	15	28	4
16	Lichtbruin	388.00	442.00	4 15/16	16	16½	32	4
18	Lichtekooi	406.00	462.00	4 15/16	18	16½	32	4
20	Lichtelijk	424.00	482.00	4 15/16	20	16½	32	4
22	Lichterloh	442.00	502.00	4 15/16	22	16½	32	4
46x4	Lichterman	172.00	188.00	3 7/16	10	12	18	4
5	Lichtfarbe	201.00	222.00	3 15/16	11	12½	20	4
6	Lichtfeind	205.00	226.00	3 15/16	11	12½	20	4
7	Lichtfleck	221.00	251.00	3 15/16	13	14	22	4
8	Lichtform	226.00	256.00	3 15/16	13	14	22	4
9	Lichtfuchs	255.00	290.00	4 7/16	13	14½	24	4

*Special Flanged Pulleys, see Figure 45412, page 332.

Friction Clutch Pulleys are regularly furnished with split babbitted cast iron bushings. Split brass or bronze bushings can be furnished at additional charge.

Standard Friction Clutch Pulleys—Continued

Price List, Subject to Discount

Size of Pulley, Inches	CODE WORD For Size	Price, Solid	Price, Split	Maximum Standard Bores, Inches	Space Required on Shaft		Diam. of Clutch Regularly Used, Inches	Number of Arms
					Pulley, Inches	Clutch, Inches		
46x10	Lichtfunke	$260.00	$295.00	4 7/16	13	14½	24	4
11	Lichtgans	314.00	350.00	4 15/16	13	15	28	4
12	Lichtgarn	323.00	365.00	4 15/16	13	15	28	4
14	Lichtgeist	336.00	385.00	4 15/16	14	15	28	4
16	Lichtgelbe.	394.00	448.00	4 15/16	16	16½	32	4
18	Lichtglanz	412.00	468.00	4 15/16	18	16½	32	4
20	Lichtgolf	430.00	488.00	4 15/16	20	16½	32	4
22	Lichtgott	448.00	508.00	4 15/16	22	16½	32	4
24	Lichtgruen	517.00	577.00	5 7/16	24	18	36	4
48x4	Lotterbube	173.00	190.00	3 7/16	10	12	18	4
5	Lotterhaft	204.00	225.00	3 15/16	11	12½	20	4
6	Lotterhose	208.00	229.00	3 15/16	11	12½	20	4
7	Lotterig	225.00	255.00	3 15/16	13	14	22	4
8	Lotteriger	230.00	260.00	3 15/16	13	14	22	4
9	Lotterreim	259.00	294.00	4 7/16	13	14½	24	4
10	Lottogeld	310.00	345.00	4 15/16	13	15	28	4
11	Lottokaart	320.00	355.00	4 15/16	13	15	28	4
12	Lottokugel	330.00	370.00	4 15/16	13	15	28	4
14	Lottospiel	342.00	390.00	4 15/16	14	15	28	4
16	Lotusbaum	400.00	454.00	4 15/16	16	16½	32	4
18	Lotusbloem	418.00	474.00	4 15/16	18	16½	32	4
20	Lotusblume	436.00	494.00	4 15/16	20	16½	32	4
22	Lotusboom	454.00	514.00	4 15/16	22	16½	32	4
24	Lotwurz	526.00	586.00	5 7/16	24	16½	36	4
50x4	Louable	175.00	192.00	3 7/16	10	12	18	4
5	Louait	207.00	228.00	3 15/16	11	12½	20	4
6	Louange	211.00	232.00	3 15/16	11	12½	20	4
7	Louangeur	229.00	259.00	3 15/16	13	14	22	4
8	Loubine	258.00	293.00	4 7/16	13	14½	24	4
9	Loucainha	263.00	298.00	4 7/16	13	14½	24	4
10	Loucamente	315.00	350.00	4 15/16	13	15	28	4
11	Loucao	325.00	360.00	4 15/16	13	15	28	4
12	Louchard	335.00	375.00	4 15/16	13	15	28	4
14	Loucura	388.00	440.00	4 15/16	14	16½	32	4
16	Loudful	406.00	460.00	4 15/16	16	16½	32	4
18	Loudly	424.00	480.00	4 15/16	18	16½	32	4
20	Loudness	442.00	500.00	4 15/16	20	16½	32	4
22	Lounging	510.00	570.00	5 7/16	22	18	36	4
24	Louquejar	535.00	595.00	5 7/16	24	18	36	4
52x5	Louquice	210.00	231.00	3 15/16	11	12½	20	4
6	Louquinho	228.00	258.00	3 15/16	13	14	22	4
7	Lourqca	233.00	263.00	3 15/16	13	14	22	4
8	Lourdaud	262.00	297.00	4 7/16	13	14½	24	4
9	Loureira	310.00	345.00	4 15/16	13	15	28	4
10	Lourigado	320.00	355.00	4 15/16	13	15	28	4
11	Lourinho	330.00	365.00	4 15/16	13	15	28	4
12	Lousewort	340.00	380.00	4 15/16	13	15	28	4
14	Lousinha	394.00	446.00	4 15/16	14	16½	32	4
16	Lousonna	412.00	466.00	4 15/16	16	16½	32	4
18	Louteraar	430.00	486.00	4 15/16	18	16½	32	4

Friction Clutch Pulleys are regularly furnished with split babbitted cast iron bushings. Split brass or bronze bushings can be furnished at additional charge.

Standard Friction Clutch Pulleys—Continued

Price List, Subject to Discount

Size of Pulley, Inches	CODE WORD For Size	Price, Solid	Price, Split	Maximum Standard Bores, Inches	Space Required on Shaft		Diam. of Clutch Regularly Used, Inches	Number of Arms
					Pulley, Inches	Clutch, Inches		
52x20	Loutier	$448.00	$506.00	4 15/16	20	16½	32	4
22	Loutish	519.00	579.00	5 7/16	22	18	36	4
24	Loutishly	544.00	604.00	5 7/16	24	18	36	4
54x5	Loutrique	213.00	234.00	3 15/16	11	12½	20	4
6	Louvador	232.00	262.00	3 15/16	13	14	22	4
7	Louvaniste	237.00	267.00	3 15/16	13	14	22	4
8	Louvarlou	266.00	301.00	4 7/16	13	14½	24	4
9	Louvavel	315.00	350.00	4 15/16	13	15	28	4
10	Louvelle	325.00	360.00	4 15/16	13	15	28	4
11	Louvetage	335.00	370.00	4 15/16	13	15	28	4
12	Louveteur	345.00	385.00	4 15/16	13	15	28	4
14	Louvor	400.00	452.00	4 15/16	14	16½	32	4
16	Louwmaand	418.00	472.00	4 15/16	16	16½	32	4
18	Loveless	436.00	492.00	4 15/16	18	16½	32	4
20	Loveling	454.00	512.00	4 15/16	20	16½	32	4
22	Lovely	528.00	588.00	5 7/16	22	18	36	4
24	Lovesome	553.00	613.00	5 7/16	24	18	36	4
56x5	Lovingly	216.00	237.00	3 15/16	11	12½	20	4
6	Lovingness	236.00	266.00	3 15/16	13	14	22	4
7	Lowando	241.00	271.00	3 15/16	13	14	22	4
8	Lowbell	270.00	305.00	4 7/16	13	14½	24	4
9	Lowbelled	320.00	355.00	4 15/16	13	15	28	4
10	Lowbelling	330.00	365.00	4 15/16	13	15	28	4
11	Loweringly	340.00	375.00	4 15/16	13	15	28	4
12	Lowermost	350.00	390.00	4 15/16	13	15	28	4
14	Lowland	406.00	458.00	4 15/16	14	16½	32	4
16	Lowlander	424.00	478.00	4 15/16	16	16½	32	4
18	Lowlily	442.00	498.00	4 15/16	18	16½	32	4
20	Lowliness	512.00	572.00	5 7/16	20	18	36	4
22	Lowries	537.00	597.00	5 7/16	22	18	36	4
24	Loxarthrus	562.00	622.00	5 7/16	24	18	36	4
58x5	Loxigelle	219.00	240.00	3 15/16	11	12½	20	4
6	Loxocarpe	240.00	270.00	3 15/16	13	14	22	4
7	Loxoclase	270.00	305.00	4 7/16	13	14½	24	4
8	Loxocosmo	274.00	309.00	4 7/16	13	14½	24	4
9	Loxodon	325.00	360.00	4 15/16	13	15	28	4
10	Loxodonta	335.00	370.00	4 15/16	13	15	28	4
11	Loxomma	345.00	380.00	4 15/16	13	15	28	4
12	Loxoneme	394.00	444.00	4 15/16	14	16½	32	4
14	Loxonevre	412.00	464.00	4 15/16	14	16½	32	4
16	Loxostome	430.00	484.00	4 15/16	16	16½	32	4
18	Loxostyle	448.00	504.00	4 15/16	18	16½	32	4
20	Loxotis	521.00	581.00	5 7/16	20	18	36	4
22	Loxure	546.00	606.00	5 7/16	22	18	36	4
24	Loyalement	571.00	631.00	5 7/16	24	18	36	4
60x8	Loyaler	320.00	355.00	4 15/16	13	15	28	4
9	Loyalisme	330.00	365.00	4 15/16	13	15	28	4
10	Loyalness	340.00	375.00	4 15/16	13	15	28	4
11	Loyaute	350.00	385.00	4 15/16	13	15	28	4
12	Lozaneaba	400.00	450.00	4 15/16	14	16½	32	4

Friction Clutch Pulleys are regularly furnished with split babbitted cast iron bushings. Split brass or bronze bushings can be furnished at additional charge.

Standard Friction Clutch Pulleys—Continued

Price List, Subject to Discount

Size of Pulley, Inches	CODE WORD For Size	Price, Solid	Price, Split	Maximum Standard Bores, Inches	Space Required on Shaft		Diam. of Clutch Regularly Used, Inches	Number of Arms
					Pulley, Inches	Clutch, Inches		
60x14	Lozaneamos	$418.00	$470.00	4 15/16	14	16½	32	4
16	Lozaneando	436.00	490.00	4 15/16	16	16½	32	4
18	Lozanear	505.00	565.00	5 7/16	18	18	36	4
20	Lozanearon	530.00	590.00	5 7/16	20	18	36	4
22	Lozaneases	555.00	615.00	5 7/16	22	18	36	4
24	Lozaneeis	580.00	640.00	5 7/16	24	18	36	4
62x8	Lozanga	325.00	360.00	4 15/16	13	15	28	4
9	Lozangato	335.00	370.00	4 15/16	13	15	28	4
10	Lozanie	345.00	380.00	4 15/16	13	15	28	4
11	Lubbard	355.00	390.00	4 15/16	13	15	28	4
12	Lubber	406.00	456.00	4 15/16	14	16½	32	4
14	Lubeckois	424.00	476.00	4 15/16	14	16½	32	4
16	Lubentinam	442.00	496.00	4 15/16	16	16½	32	4
18	Lubieux	514.00	574.00	5 7/16	18	18	36	4
20	Lubricammo	539.00	599.00	5 7/16	20	18	36	4
22	Lubricamus	564.00	624.00	5 7/16	22	18	36	4
24	Lubricando	622.00	685.00	5 7/16	24	19	40	4
64x9	Lubricassi	340.00	375.00	4 15/16	13	15	28	4
10	Lubricator	350.00	385.00	4 15/16	13	15	28	4
11	Lubricava	394.00	442.00	4 15/16	14	16½	32	4
12	Lubricite	412.00	462.00	4 15/16	14	16½	32	4
14	Lubrico	430.00	482.00	4 15/16	14	16½	32	4
16	Lubricorum	448.00	502.00	4 15/16	16	16½	32	4
18	Lubrifiant	523.00	583.00	5 7/16	18	18	36	4
20	Lubriga	548.00	608.00	5 7/16	20	18	36	4
22	Lucana	573.00	633.00	5 7/16	22	18	36	4
24	Lucanicus	632.00	695.00	5 7/16	24	19	40	4
66x9	Lucanidae	345.00	380.00	4 15/16	13	15	28	4
10	Lucanien	355.00	390.00	4 15/16	13	15	28	4
11	Lucanor	400.00	448.00	4 15/16	14	16½	32	4
12	Lucanorum	418.00	468.00	4 15/16	14	16½	32	4
14	Lucaribus	436.00	488.00	4 15/16	14	16½	32	4
16	Lucarino	454.00	508.00	4 15/16	16	16½	32	4
18	Lucceius	532.00	592.00	5 7/16	18	18	36	4
20	Luceat	557.00	617.00	5 7/16	20	18	36	4
22	Lucenses	582.00	642.00	5 7/16	22	18	36	4
24	Lucentem	642.00	705.00	5 7/16	24	19	40	4
68x9	Lucentibus	350.00	385.00	4 15/16	13	15	28	4
10	Lucentium	360.00	395.00	4 15/16	13	15	28	4
11	Lucentor	406.00	454.00	4 15/16	14	16½	32	4
12	Lucenza	424.00	474.00	4 15/16	14	16½	32	4
14	Luceremus	442.00	494.00	4 15/16	14	16½	32	4
16	Lucernaio	516.00	576.00	5 7/16	16	18	36	4
18	Lucernaire	541.00	601.00	5 7/16	18	18	36	4
20	Lucernaria	566.00	626.00	5 7/16	20	18	36	4
22	Lucernator	622.00	685.00	5 7/16	22	19	40	4
24	Lucernelle	652.00	715.00	5 7/16	24	19	40	4
70x12	Lucernois	430.00	480.00	4 15/16	14	16½	32	4
14	Lucernulis	448.00	500.00	4 15/16	14	16½	32	4
16	Lucernute	525.00	585.00	5 7/16	16	18	36	4

Friction Clutch Pulleys are regularly furnished with split babbitted cast iron bushings. Split brass or bronze bushings can be furnished at additional charge.

Standard Friction Clutch Pulleys—Continued

Price List, Subject to Discount

Size of Pulley, Inches	CODE WORD For Size	Price, Solid	Price, Split	Maximum Standard Bores, Inches	Space Required on Shaft		Diam. of Clutch Regularly Used, Inches	Number of Arms
					Pulley, Inches	Clutch, Inches		
70x18	Lucernuzza	$550.00	$610.00	5 7/16	18	18	36	4
20	Lucertola	575.00	635.00	5 7/16	20	18	36	4
22	Lucertone	635.00	700.00	5 7/16	22	19	40	4
24	Lucescetis	665.00	730.00	5 7/16	24	19	40	4
72x12	Lucescimus	436.00	486.00	4 15/16	14	16½	32	4
14	Lucescunt	454.00	506.00	4 15/16	14	16½	32	4
16	Lucestre	534.00	594.00	5 7/16	16	18	36	4
18	Lucetius	559.00	619.00	5 7/16	18	18	36	4
20	Luchabamos	584.00	644.00	5 7/16	20	18	36	4
22	Luchadora	650.00	715.00	5 7/16	22	19	40	4
24	Luchadores	680.00	745.00	5 7/16	24	19	40	4
74x12	Luchamos	442.00	492.00	4 15/16	14	16½	32	4
14	Lucharan	460.00	512.00	4 15/16	14	16½	32	4
16	Luchariais	543.00	603.00	5 7/16	16	18	36	4
18	Luchasteis	568.00	628.00	5 7/16	18	18	36	4
20	Luchelie	593.00	653.00	5 7/16	20	18	36	4
22	Lucherammo	665.00	730.00	5 7/16	22	19	40	4
24	Lucherando	695.00	760.00	5 7/16	24	19	40	4
76x12	Lucherassi	448.00	498.00	4 15/16	14	16½	32	4
14	Lucherato	466.00	518.00	4 15/16	14	16½	32	4
16	Lucherava	552.00	612.00	5 7/16	16	18	36	4
18	Luchererai	577.00	637.00	5 7/16	18	18	36	4
20	Luchero	650.00	715.00	5 7/16	20	19	40	4
22	Luchettone	680.00	745.00	5 7/16	22	19	40	4
24	Luchsauge	760.00	835.00	5 7/16	24	18	36	6
78x12	Luchsfell	454.00	504.00	4 15/16	14	16½	32	4
14	Luchskatze	535.00	595.00	5 7/16	14	18	36	4
16	Luchslager	561.00	621.00	5 7/16	16	18	36	4
18	Luchstein	587.00	647.00	5 7/16	18	18	36	4
20	Luchtader	665.00	730.00	5 7/16	20	19	40	4
22	Luchtblaas	695.00	760.00	5 7/16	22	19	40	4
24	Luchtbol	775.00	850.00	5 7/16	24	18	36	6
80x12	Luchtborst	461.00	511.00	4 15/16	14	16½	32	4
14	Luchtbreuk	544.00	604.00	5 7/16	14	18	36	4
16	Luchtbuis	570.00	630.00	5 7/16	16	18	36	4
18	Luchtdicht	598.00	658.00	5 7/16	18	18	36	4
20	Luchtgang	680.00	745.00	5 7/16	20	19	40	4
22	Luchtgat	710.00	775.00	5 7/16	22	19	40	4
24	Luchthart	790.00	865.00	5 7/16	24	18	36	6
82x12	Luchtjes	469.00	520.00	4 15/16	14	16½	32	4
14	Luchtketel	553.00	613.00	5 7/16	14	18	36	4
16	Luchtkleur	579.00	639.00	5 7/16	16	18	36	4
18	Luchtkolom	610.00	670.00	5 7/16	18	18	36	4
20	Luchtkunde	695.00	760.00	5 7/16	20	19	40	4
22	Luchtledig	775.00	850.00	5 7/16	22	18	36	6
24	Luchtmeter	805.00	880.00	5 7/16	24	18	36	6
84x12	Luchtmout	478.00	530.00	4 15/16	14	16½	32	4
14	Luchtpomp	562.00	622.00	5 7/16	14	18	36	4
16	Luchtpoort	588.00	648.00	5 7/16	16	18	36	4
18	Luchtruim	680.00	745.00	5 7/16	18	19	40	4
20	Luchtschip	710.00	775.00	5 7/16	20	19	40	4
22	Luchtspoor	790.00	865.00	5 7/16	22	18	36	6
24	Luchtweg	925.00	1000.00	5 7/16	24	19	40	6

Friction Clutch Pulleys are regularly furnished with split babbitted cast iron bushings. Split brass or bronze bushings can be furnished at additional charge.

Babbitted and Brass Bushings

For Pulleys, Sheaves, Sprocket Wheels, etc.

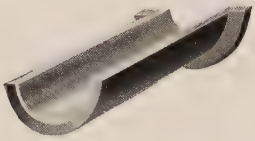


Fig. 45414. (*Akanthite*)
Split Bushing with Flange.

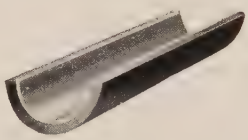


Fig. 45415. (*Akanthos*)
Plain Split Bushing.

Fig. 45416. (*Adaction*)
Solid Bushing with Flange.

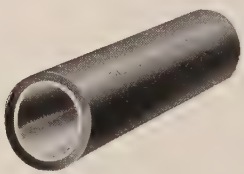


Fig. 45417. (*Adadah*)
Plain Solid Bushing.

Price List, Subject to Discount

Diam. of Shaft, Inches	CODE WORD for Shaft Diameter	BABBITTED CAST IRON BUSHINGS				Diam. of Shaft, Inches	BRASS BUSHINGS			
		Outside Diam., Inches	Price per inch, Solid, Plain Lascabamos	Price per inch, Split Plain Lascaba	Price of Flange Lasanorum		Outside Diam., Inches	Price per inch, Solid, Plain Lascabais	Price per inch, Split, Plain Lasanum	Price of Flange Lasagnott
1 7/16	Lassarent	.....	.....	.....	.....	1 7/16	1 15/16	$1.00	$1.30	$0.25
1 11/16	Lassatorum	.....	.....	.....	.....	1 11/16	2 3/16	1.10	1.40	.30
1 15/16	Lassaturam	3 3/16	$0.95	$1.20	$0.20	1 15/16	2 7/16	1.20	1.50	.35
2 3/16	Lassaverat	3 7/16	1.05	1.30	.20	2 3/16	2 11/16	1.30	1.60	.40
2 7/16	Lassavimus	3 11/16	1.15	1.40	.20	2 7/16	2 15/16	1.40	1.70	.45
2 11/16	Lassavis	3 15/16	1.30	1.55	.20	2 11/16	3 3/16	1.50	1.85	.50
2 15/16	Lassavisti	4 7/16	1.45	1.70	.25	2 15/16	3 7/16	1.60	1.95	.60
3 3/16	Lassazione	4 11/16	1.60	1.85	.30	3 3/16	3 11/16	1.75	2.15	.70
3 7/16	Lassbinde	4 15/16	1.75	2.00	.30	3 7/16	3 15/16	1.90	2.30	.80
3 11/16	Lasseisen	5 3/16	1.90	2.15	.35	3 11/16	4 7/16	2.10	2.50	.90
3 15/16	Lassescet	5 11/16	2.05	2.30	.40	3 15/16	4 11/16	2.30	2.70	1.00
4 3/16	Lassescis	5 15/16	2.30	2.65	.45	4 3/16	4 15/16	2.50	2.90	1.10
4 7/16	Lassescunt	6 3/16	2.55	2.90	.45	4 7/16	5 3/16	2.70	3.15	1.20
4 11/16	Lastauros	6 7/16	2.80	3.15	.50	4 11/16	5 7/16	2.90	3.40	1.30
4 15/16	Lastaurum	6 15/16	3.05	3.40	.50	4 15/16	5 11/16	3.15	3.65	1.40
5 3/16	Lastbar	7 7/16	3.30	3.65	.55	...	...	...	...	...
5 7/16	Lastfrief	7 7/16	3.55	3.90	.55	...	...	...	...	...
5 11/16	Lastdieren	7 11/16	3.80	4.15	.60	...	...	...	...	...
5 15/16	Lastdrager	8 3/16	4.05	4.40	.60	...	...	...	...	...
6 3/16	Lastenzug	8 7/16	4.30	4.65	.65	...	...	...	...	...
6 7/16	Lasterbalg	8 11/16	4.55	4.90	.70	...	...	...	...	...
6 11/16	Lasterboel	8 15/16	4.80	5.15	.75	...	...	...	...	...
6 15/16	Lasterdaad	9 7/16	5.05	5.40	.80	...	...	...	...	...

In telegraphing, give code word for size of shaft and follow by code word at head of price list of style of bushing wanted.

Band Wheels

Large Split Band Wheel

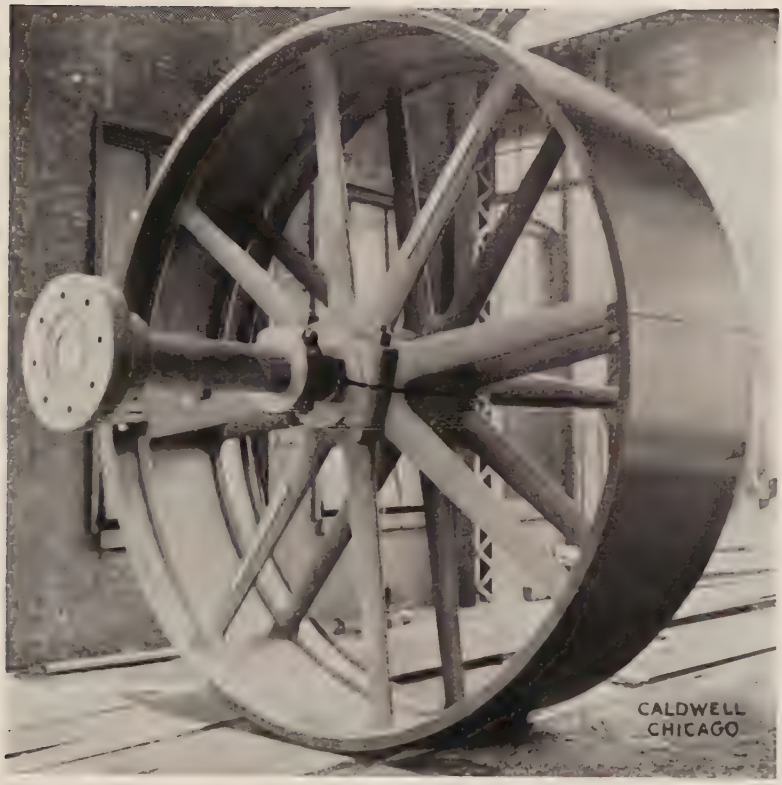


Fig. 45418. (*Landgrenze*)

We make Band Wheels and Fly Wheels up to 20 feet in diameter, and 20 tons weight. Our pattern equipment for this class of work is very complete.

Prices upon application

Cast Iron Fly Wheels

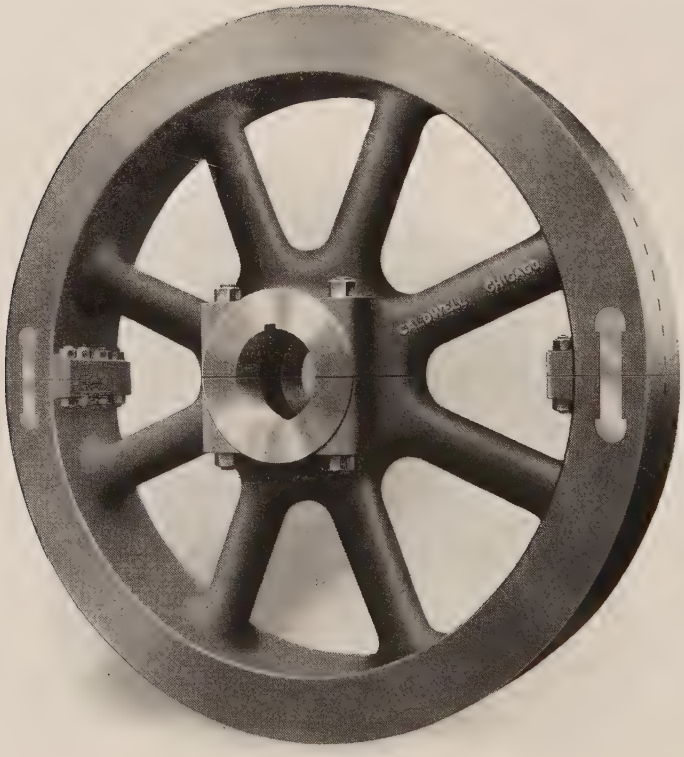


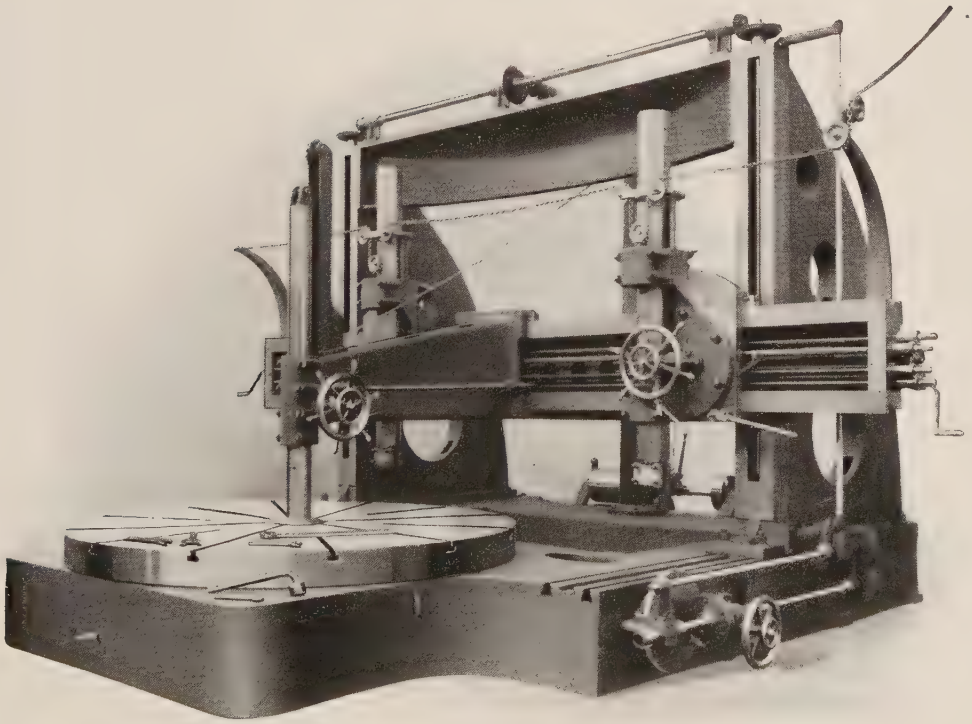
Fig. 45419. (*Anon*)
Large Split Fly Wheel

We are prepared to make fly wheels of any design and any required weight, up to 20 feet in diameter.

Prices will be quoted upon application.

Cast Iron Fly Wheels

Fig. 45420. (*Landhaus*)
Small Solid Fly Wheel



The illustration above shows our largest boring mill; capable of turning a wheel 20 feet in diameter and with 8 foot face. This boring mill is one of the largest in the west and enables us to handle work of the heaviest kind.

All-Wrought Steel Split Pulleys

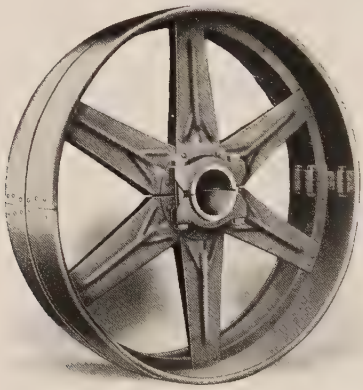


Fig. 45421. (*Acroama*)

Price List, Subject to Discount

Diameter in Inches	WIDTH OF FACE IN INCHES										
	3	4	5	6	8	10	12	14	16	18	20
6	$3.30	$3.45	$3.75	$4.05	.....	.....	.....	.....	.....	.....	.....
7	3.38	3.60	3.90	4.20	.....	.....	.....	.....	.....	.....	.....
8	3.45	3.75	4.05	4.35	$4.95	$5.60	.....	.....	.....	.....	.....
9	3.60	3.90	4.20	4.50	5.10	5.75	.....	.....	.....	.....	.....
10	3.75	4.05	4.35	4.65	5.25	5.90	$6.45	.....	.....	.....	.....
11	3.90	4.20	4.50	4.80	5.40	6.00	6.90	.....	.....	.....	.....
12	4.20	4.63	4.80	5.33	5.78	6.45	7.65	.....	.....	.....	.....
13	4.35	4.80	5.20	5.62	6.43	7.20	8.40	$9.50	$10.75	.....	.....
14	4.50	5.20	5.65	6.15	7.05	8.03	9.00	10.00	11.25	.....	.....
15	4.65	5.45	5.80	6.55	7.65	8.80	9.75	10.75	12.00	.....	.....
16	4.95	5.75	6.10	6.90	8.25	9.45	10.50	11.50	12.65	.....	.....
17	5.25	6.00	6.50	7.28	8.78	10.05	11.25	12.40	13.65	.....	.....
18	5.55	6.38	7.00	7.65	9.30	10.65	12.00	13.25	14.50	.....	.....
19	5.80	6.75	7.50	8.25	10.13	11.25	12.90	14.20	15 60	.....	.....
20	6.00	7.50	8.10	9.00	10.73	12.00	14.25	15.30	16.90	.....	.....
21	6.25	8.00	8.90	9.60	11.25	12.98	15.60	18.00	20.55	.....	.....
22	6.50	8.55	9.50	10.28	12.00	14.10	16.80	19.50	21.30	.....	.....
23	7.00	8.70	9.90	10.58	12.60	14.75	18.00	21.00	24.30	.....	.....
24	7.50	8.90	10.00	10.95	13.20	15.68	19.05	22.65	26.25	$29.92	$34.50
26	.....	9.55	10.50	11.95	14.40	17.10	21.30	26 25	31.20	36.15	41.40
28	.....	10.80	11.70	12.90	15.45	18.15	22.90	28.50	34.50	40.35	46.35
30	.....	12.00	12.90	14.10	17.25	19.90	24.75	31.50	38.10	45.00	49.50
32	.....	13.20	14.10	15.45	19.35	22.50	26.86	34.15	41.65	48.37	54.37
34	.....	14.40	15.75	17.25	21.75	25.50	30.00	36.75	45.00	51.75	57.45
36	.....	15.90	17.85	19.50	24.00	28.65	33.75	39.75	48.60	55.50	61.50
38	.....	19.50	20.65	21.75	26.40	31.05	37.15	42.75	51.75	58.87	64.87
40	.....	21.00	22.75	24.00	28.50	33.75	40.15	46.50	55.15	62.25	69.75
42	.....	23.25	24.85	26.25	32.25	37.50	43.50	50.25	57.75	65.62	73.12

Telegraph code. Use code for cast iron pulleys (see page 323) to state diameter, face, bore and other particulars, preceding your description by the word **Acroama.**

All-Wrought Steel Split Pulleys—Continued

Diameter in Inches	WIDTH OF FACE IN INCHES							
	6	8	10	12	14	16	18	20
44	$29.25	$ 35.62	$ 41.25	$ 47.25	$ 54.00	$ 61.12	$ 69.00	$ 78.00
46	33.00	39.00	45.00	50.25	57.75	64.50	72.00	81.00
48	36.75	42.00	48.75	54.00	61.50	67.50	75.00	87.00
50	40.87	47.25	53.25	58.50	66.00	75.00	84.00	96.00
52	46.50	51.00	57.00	63.00	69.00	78.75	90.00	102.00
54	50.25	56.25	61.50	67.50	74.25	83.25	96.75	108.75
56	54.00	60.75	66.75	72.75	80.25	90.00	104.25	119.25
58	60.00	65.25	71.25	78.37	86.62	96.37	110.62	125.62
60	63.75	70.50	77.25	84.00	93.00	102.75	117.00	132.00
62	.....	72.85	84.30	95.95	107.55	119.95	132.30	144.85
64	.....	76.50	88.20	100.10	111.95	124.60	137.20	150.00
66	.....	80.25	92.20	104.35	116.45	129.35	142.20	155.30
68	.....	84.15	96.35	108.75	121.10	134.25	147.40	160.80
70	.....	88.10	100.70	113.55	126.35	139.95	153.60	167.60
72	.....	92.15	105.05	118.15	131.30	145.40	159.65	174.30
74	.....	96.35	109.65	123.20	136.85	151.50	166.30	181.50
76	.....	100.65	114.30	128.35	142.55	157.75	173.10	188.95
78	.....	105.05	119.15	133.70	148.45	164.20	180.20	196.60
80	.....	109.60	124.25	139.35	154.65	170.95	187.45	204.40
82	.....	114.25	129.45	145.10	160.95	177.90	195.05	212.65
84	.....	119.00	134.75	150.95	167.40	184.95	202.75	221.05

Diameter in Inches	WIDTH OF FACE IN INCHES									
	22	24	26	28	30	32	34	36	38	40
30	$55.50	$61.50	$67.50	$74.25	$81.67	.....	.....	.....	.....	.....
32	60.37	66.37	72.37	79.60	87.56	$96.31	.....	.....	.....	.....
34	63.75	69.75	75.00	82.50	90.75	99.82	.....	.....	.....	.....
36	67.50	73.50	79.50	87.45	96.19	105.80	$116.38	$128.01	.....	.....
38	70.87	76.87	82.87	91.15	100.26	110.28	121.30	133.43	.....	.....
40	77.25	84.75	92.55	101.80	111.98	123.17	135.48	149.02	.....	.....
42	80.62	88.12	95.62	105.18	115.69	127.25	139.97	153.96	.....	.....
44	87.00	96.00	105.00	115.50	127.05	139.75	153.72	169.09	.....	.....
46	90.00	99.00	108.00	118.80	130.68	143.74	158.11	173.92	.....	.....
48	99.00	111.00	123.00	135.30	148.83	163.71	180.08	198.08	.....	.....
50	108.00	120.00	132.00	145.20	159.72	175.69	193.25	212.57	.....	.....
52	114.00	126.00	138.00	151.80	166.98	183.67	202.03	222.23	.....	.....
54	120.75	132.75	144.75	159.22	175.14	192.65	211.91	233.10	.....	.....
56	134.25	149.25	164.25	180.67	198.73	218.60	240.46	264.50	.....	.....
58	140.62	155.62	170.62	187.68	206.44	227.08	249.78	274.75	.....	.....
60	147.00	162.00	177.00	194.70	214.17	235.58	259.13	285.04	.....	.....

Bores. Interchangeable cast iron bushing allows each hub to be bushed down in sixteenths of an inch to fit any standard size shaft.

Standard bores: Pulleys 6 and 7 inches diameter, $2\frac{7}{16}$ inches; 8 to 36 inches diameter, $3\frac{1}{2}$ inches; 36 to 48 inches diameter, $4\frac{7}{16}$ inches; 50 to 60 inches diameter $4\frac{7}{16}$ inches or $6\frac{1}{2}$ inches; 62 inches or larger $4\frac{7}{16}$, $6\frac{1}{2}$ or $8\frac{1}{2}$ inches.

For pulleys with larger bores than specified an additional charge will be made.

Odd size diameters: Pulleys above 24 inches, add 20 per cent to the next higher list.

Telegraph code. Use code for cast iron pulleys (see page 323) to state diameter, face, bore, and other particulars, preceding your description by the word **Acroama.**

Wood Split Pulleys

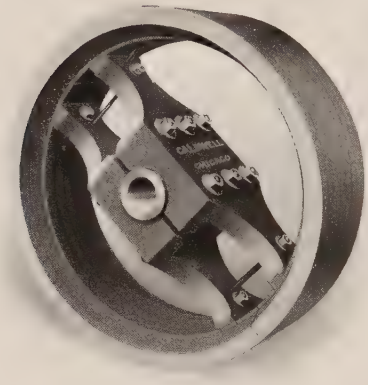


Fig. 45422. (*Landhecht*)

These pulleys are held to the shaft by compression. The bushings are of wood and are split. The pulleys cannot be key-seated or set-screwed, and this is not necessary. The driving pulley for shifting belt should be straight face, and pulleys for non-shifting belts crown face. Crown face pulleys are furnished unless otherwise specified.

When ordering specify diameter of pulley, width of face, size of shaft, and whether crown or straight face.

Price List of Wood Split Pulleys

Subject to Discount

Diam.	WIDTH OF FACE IN INCHES												
Ins.	3	4	5	6	8	10	12	14	16	18	20	22	24
4	$2.80	$2.90	$3.10	$3.30	$3.70	$ 4.10	$ 4.50	.....	.....	.....	.....	.....	.....
5	2.85	2.95	3.20	3.40	3.85	4.30	4.75	.....	.....	.....	.....	.....	.....
6	2.90	3.00	3.25	3.50	4.00	4.50	5.00	.....	.....	.....	.....	.....	.....
7	2.95	3.05	3.35	3.60	4.15	4.70	5.25	$ 5.80	.....	.....	.....	.....	.....
8	3.00	3.10	3.40	3.70	4.30	4.90	5.50	6.10	.....	.....	.....	.....	.....
9	3.10	3.25	3.60	3.90	4.55	5.20	5.85	6.50	.....	.....	.....	.....	.....
10	3.25	3.40	3.75	4.10	4.80	5.50	6.20	6.90	$ 7.60	.....	.....	.....	.....
11	3.50	3.70	4.10	4.50	5.30	6.10	6.90	7.70	8.50	.....	.....	.....	.....
12	3.75	4.00	4.45	4.90	5.80	6.70	7.60	8.50	9.40	$10.30	.....	.....	.....

Telegraph Code: Use code (page 323) for cast iron pulleys to state diameter, face bore and other particulars, preceding description by the word Landhecht.

Price List Wood Split Pulleys—Continued

Subject to Discount

Diam. Ins.	WIDTH OF FACE IN INCHES												
	3	4	5	6	8	10	12	14	16	18	20	22	24
13	.....	$4.30	$4.80	$5.30	$ 6.30	$ 7.30	$ 8.30	$ 9.30	$10.30	$11.30	.....	.....	.....
14	.....	4.60	5.15	5.70	6.80	7.90	9.00	10.10	11.20	12.30	$13.40	.....	.....
15	.....	4.90	5.50	6.10	7.30	8.50	9.70	10.90	12.10	13.30	14.50	.....	.....
16	.....	5.20	5.85	6.50	7.80	9.10	10.40	11.70	13.00	14.30	15.60	$16.90	.....
17	.....	5.50	6.20	6.90	8.30	9.70	11.10	12.50	13.90	15.30	16.70	18.10	.....
18	.....	5.80	6.55	7.30	8.80	10.30	11.80	13.30	14.80	16.30	17.80	19.30	$20.80
19	.....	6.10	6.90	7.70	9.30	10.90	12.50	14.10	15.70	17.30	18.90	20.50	22.10
20	.....	6.40	7.25	8.10	9.80	11.50	13.20	14.90	16.60	18.30	20.00	21 70	23.40
22	.....	7.00	7.95	8.90	10.80	12.70	14.60	16.50	18.40	20.30	22.20	24.10	26.00
24	.....	7.70	8.80	9.90	12.10	14.30	16.50	18.70	20.90	23.10	25.30	27.50	29.70
26	.....	8.40	9.65	10.90	13.40	15.90	18.40	20.90	23.40	25.90	28.40	30.90	33.40
28	.....	9.10	10.50	11.90	14.70	17.50	20.30	23.10	25.90	28.70	31.50	34.30	37.10
30	.....	9.80	11.35	12.90	16.00	19.10	22.20	25.30	28.40	31.50	34.60	37.70	40.80
32	.....	10.50	12.20	13.90	17.30	20.70	24.10	27.50	30.90	34.30	37.70	41.10	44.50
34	.....	11.30	13.15	15.00	18.70	22.40	26.10	29.80	33.50	37.20	40.90	44.60	48.30
36	....	12.10	14.10	16.10	20.10	24.10	28.10	32.10	36.10	40.10	44.10	48.10	52.10
38	.....	.....	.....	17.20	21.50	25.80	30.10	34.40	38.70	43.00	47.30	51.60	55.90
40	.....	.....	.....	18.30	22.90	27.50	32.10	36.70	41.30	45.90	50.50	55.10	59.70
42	.....	.....	.....	19.60	24.60	29.60	34.60	39.60	44.60	49.60	54.60	59.60	64.60
44	.....	.....	.....	20.90	26.30	31.70	37.10	42.50	47.90	53.30	58.70	64.10	69.50
46	.....	.....	.....	22.30	28.10	33.90	39.70	45.50	51.30	57.10	62.90	68.70	74.50
48	.....	.....	.....	23.80	30.00	36.20	42.40	48.60	54.80	61.00	67.20	73.40	79.60
50	.....	.....	.....	25.40	32.00	38.60	45.20	51.80	58.40	65.00	71.60	78.20	84.80
52	.....	.....	.....	27.10	34.10	41.10	48.10	55.10	62.10	69.10	76.10	83.10	90.10
54	.....	.....	.....	28.90	36.30	43.70	51.10	58.50	65.90	73.30	80.70	88.10	95.50
56	.....	.....	.....	30.80	38.60	46.40	54.20	62.00	69.80	77.60	85.40	93.20	101.00
58	.....	.....	.....	32.80	41.00	49.20	57.40	65.60	73.80	82.00	90.20	98.40	106.60
60	.....	.....	.....	34.90	43.50	52.10	60.70	69.30	77.90	86.50	95.10	103.70	112.30
62	.....	.....	.....	37.10	46.10	55.10	64.10	73.10	82.10	91.10	100.10	109.10	118.10
64	.....	.....	.....	39.40	48.80	58.20	67.60	77.00	86.40	95.80	105.20	114.60	124.00
66	.....	.....	.....	41.90	51.80	61.70	71.60	81.50	91.40	101.30	111.20	121.10	131.00
68	.....	.....	.....	44.50	54.90	65.30	75.70	86.10	96.50	106.90	117.30	127.70	138.10
70	.....	.....	.....	47.20	58.10	69.00	79.90	90.80	101.70	112.60	123.50	134.40	145.30
72	.....	.....	.....	50.00	61.40	72.80	84.20	95.60	107.00	118.40	129.80	141.20	152.60
78	.....	.....	.....	.....	71.90	84.80	97.70	110.60	123.50	136.40	149.30	162.20	175.10
84	.....	.....	.....	.....	83.30	97.70	112.10	126.50	140.90	155.30	169.70	184.10	198.50
90	.....	.....	.....	.....	95.60	111.50	127.40	143.30	159.20	175.10	191.00	206.90	222.80
96	.....	.....	.....	.....	109.00	126.50	144.00	161.50	179.00	196.50	214.00	231.50	249.00
102	.....	.....	.....	.....	123.70	143.00	162.30	181.60	200.90	220.20	239.50	258.80	278.10
108	.....	.....	.....	.....	139.30	160 40	181.50	202.60	223.70	244.80	265.90	287.00	308.10
114	.....	.....	.....	.....	155.80	178.70	201.60	224.50	247.40	270.30	293.20	316.10	339.00
120	.....	.....	.....	.....	173.20	197.90	222.60	247.30	272.00	296.70	321.40	346.10	370.80

Telegraph code. Use code for cast iron pulleys (page 323) to state diameter, face, bore and other particulars, preceding description by the word Landhecht.

Above prices for pulleys with standard bores; for larger than standard an extra charge will be made.

Transmission of Power by Paper and Iron Friction Gearing

This form of transmission is adapted for light and moderately heavy transmissions of power. Friction gears are noiseless; can be instantly engaged or disengaged, and can be run at comparatively high speed.

These conditions must be observed. The paper wheel must be used as the driver. Grease and foreign matter must be kept from the surface of the wheels. Ample bearings and rigid support must be provided, and the pressure holding the wheels in contact must not be excessive.

Give preference to narrow face of wheels with high speed.

For ordinary work the Straw Fibre Friction is entirely satisfactory and is regularly furnished unless otherwise specified. Tarred Fibre and Leather Fibre Frictions will transmit somewhat more power, but are more expensive. Horse power formulae are given below. We will be pleased to make recommendations as to the proper size of frictions upon receipt of information as to the power to be transmitted, the speed of both shafts, and the character of the load.

For price lists of Eccentric Boxes for engaging spur frictions and End Thrust Boxes for bevel and mitre frictions, see page 655.

Horse Power Formulae—Spur, Miter and Bevel Friction Drives

Leather and Cast Iron	.00016 DWN
Wood and Cast Iron	.00018 DWN
Cork Composition and Cast Iron	.00008 DWN
Straw Fibre and Cast Iron	.00030 DWN
Tarred Fibre and Cast Iron	.00055 DWN
Leather Fibre and Cast Iron	.00071 DWN

Where D—Diameter of wheels in inches.
W—Total effective width of face in inches.
N—Number of revolutions per minute.

In figuring the diameter of mitre or bevel frictions use the mean diameter (the sum of the diameter of the large end and small end of the wheel divided by two).

Spur Paper Frictions

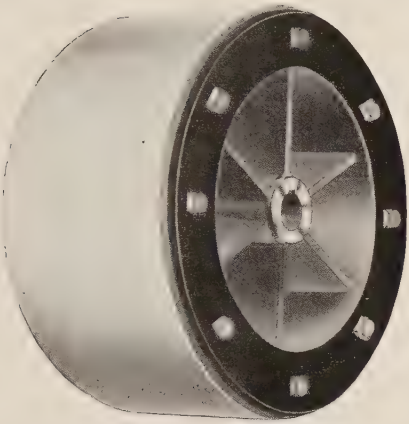


Fig. 45423. (*Aperitive*)
Frictions over 30 inches diameter are made as above.

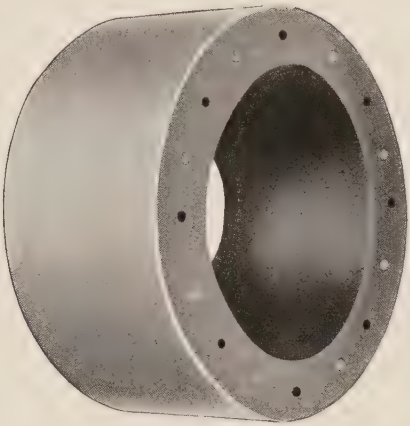


Fig. 45424. (*Apert*)
Spur friction filler.

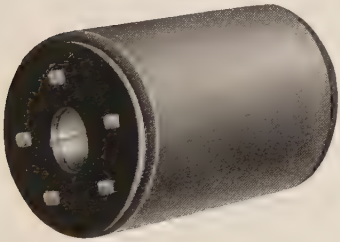


Fig. 45425. (*Landhilfe*)

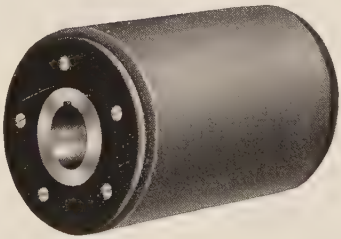


Fig. 45426. (*Largizione*)

Small Spur Paper Frictions.

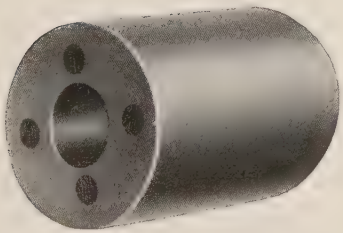


Fig. 45427. (*Apertion*)
Spur paper friction filler for use with nut flanges.

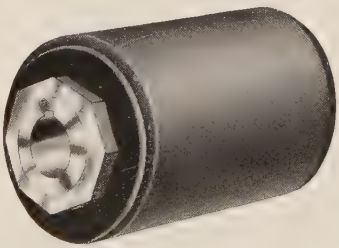


Fig. 45428. (*Apertness*)
Spur paper friction with nut flanges. Special construction for small diameters.

Price List on the following pages.

Price List of Spur Paper Frictions

Diameter	Face	Pressed Friction Roll or Filler	Friction Wheel Complete, with Flanges
4	3	$0.88	$2.12
	4	1.12	2.60
	5	1.36	3.02
	6	1.60	3.42
	7	1.84	3.84
	8	2.08	4.26
	9	2.32	4.68
	10	2.56	5.10
5	3	.96	2.38
	4	1.22	2.84
	5	1.50	3.30
	6	1.78	3.76
	7	2.04	4.20
	8	2.32	4.66
	9	2.58	5.02
	10	2.86	5.48
6	3	1.14	2.80
	4	1.48	3.28
	5	1.80	3.78
	6	2.14	4.30
	7	2.46	4.80
	8	2.80	5.32
	9	3.12	5.82
	10	3.46	6.30
7	3	1.38	3.38
	4	1.80	4.00
	5	2.22	4.62
	6	2.64	5.28
	7	3.06	5.90
	8	3.48	6.58
	9	3.90	7.22
	10	4.32	7.88
8	3	1.62	3.82
	4	2.14	4.58
	5	2.64	5.28
	6	3.16	6.04
	7	3.66	6.76
	8	4.18	7.52
	9	4.68	8.28
	10	5.22	9.10
9	3	2.10	4.68
	4	2.70	5.40
	5	3.30	6.22
	6	3.90	7.06
	7	4.50	7.86
	8	5.10	8.70
	9	5.70	9.54
	10	6.30	10.36
10	4	$3.46	$6.62
	5	4.18	7.60
	6	4.90	8.60
	7	5.62	9.58
	8	6.34	10.58
	9	7.06	11.66
	10	7.78	12.64
	12	9.22	14.62
	14	10.66	16.60
11	4	3.96	7.44
	5	4.80	8.56
	6	5.64	9.66
	7	6.48	10.78
	8	7.32	11.88
	9	8.16	13.08
	10	9.00	14.20
	12	10.68	16.42
	14	12.36	18.64
12	4	4.46	8.28
	5	5.42	9.50
	6	6.38	10.72
	7	7.34	11.96
	8	8.30	13.20
	9	9.26	14.52
	10	10.22	15.74
	12	12.14	18.20
	14	14.08	20.68
13	4	5.32	9.70
	5	6.40	11.08
	6	7.48	12.50
	7	8.58	14.00
	8	9.66	15.30
	9	10.74	16.78
	10	11.84	18.20
	12	14.00	21.00
	14	16.18	23.80
14	4	5.96	10.74
	5	7.19	12.27
	6	8.44	13.84
	7	9.68	15.38
	8	10.92	16.96
	9	12.16	18.58
	10	13.40	20.16
	12	15.88	23.26
	14	18.38	26.38
15	4	6.32	11.10
	5	7.68	12.76
	6	9.02	14.42
15	7	$10.38	$16.08
	8	11.74	17.78
	9	13.08	19.50
	10	14.44	21.20
	12	17.14	24.52
	14	19.48	27.90
16	4	6.87	12.77
	5	8.34	14.58
	6	9.82	16.42
	7	11.28	18.24
	8	12.74	20.06
	9	14.22	22.02
	10	15.68	23.84
	12	18.62	27.50
	14	21.54	31.44
17	4	7.42	13.82
	5	9.02	15.78
	6	10.62	17.74
	7	12.22	19.70
	8	13.82	21.66
	9	15.42	23.74
	10	17.02	25.70
	12	20.20	29.60
	14	23.40	33.30
18	5	9.72	16.98
	6	11.46	19.08
	7	13.20	21.18
	8	14.92	23.26
	9	16.66	25.48
	10	18.40	27.58
	12	21.88	31.78
	14	25.36	35.98
	16	28.82	40.16
20	5	11.22	21.36
	6	13.26	23.76
	7	15.30	26.16
	8	17.32	28.54
	9	19.36	31.06
	10	21.40	33.46
	12	25.46	38.24
	14	29.54	43.04
	16	33.60	47.82
22	5	12.90	26.60
	6	15.26	29.34
	7	17.62	32.06
	8	19.98	34.78
	9	22.36	37.66
	10	24.72	40.44

Telegraph Code for Spur Paper Frictions

Use code for cast iron pulleys (see page 323) for diameter, face and bore, preceding description by the word Aperitive if complete paper frictions are required, and by the word Apert if friction fillers only are wanted.

Price List of Spur Paper Frictions—Continued

Diameter	Face	Pressed Friction Roll or Filler	Friction Wheel Complete, with Flanges
22	12	$29.44	$45.88
	14	34.18	51.34
	16	38.90	56.88
24	5	14.70	30.58
	6	17.44	33.64
	7	20.16	36.70
	8	22.88	39.74
	9	25.60	43.00
	10	28.32	46.04
	12	33.76	52.14
	14	39.20	58.24
	16	44.64	64.14
26	5	16.68	34.68
	6	19.80	38.14
	7	22.90	41.56
	8	26.02	45.02
	9	29.12	48.66
	10	32.38	52.24
	12	38.46	58.98
	14	44.68	65.86
	16	50.90	72.74
28	5	18.80	39.12
	6	22.34	42.98
	7	25.86	46.84
	8	29.40	50.70
	9	32.94	54.78
	10	36.46	58.64
	12	43.52	66.36
	14	50.58	74.08
	16	57.64	81.78
30	5	21.06	42.50
	6	25.04	46.82
	7	29.02	51.12
	8	33.00	55.44
	9	36.98	59.96
	10	40.96	64.26
	12	48.92	73.88
	14	56.76	81.38
	16	64.82	90.10
32	5	23.48	48.44
	6	27.94	53.24
	7	32.40	58.02
	8	36.86	62.82
32	9	$41.32	$67.60
	10	45.78	72.40
	12	54.68	81.96
	14	63.62	91.56
	16	72.52	101.12
34	5	26.08	57.62
	6	31.06	62.94
	7	36.02	68.22
	8	40.98	73.50
	9	45.96	78.82
	10	50.94	84.12
	12	60.88	94.72
	14	70.82	105.32
	16	80.76	115.92
36	6	34.28	70.02
	7	39.80	77.66
	8	45.32	83.52
	9	50.82	89.34
	10	56.32	95.18
	12	67.34	106.86
	14	78.36	118.54
	16	89.38	130.22
	18	100.38	141.88
38	6	37.74	79.86
	7	43.82	86.28
	8	49.88	92.66
	9	59.98	103.08
	10	62.06	105.50
	12	74.20	118.30
	14	86.36	131.12
	16	98.52	143.94
	18	110.68	156.76
40	7	48.04	94.72
	8	54.72	101.74
	9	61.40	108.72
	10	68.08	115.76
	12	81.43	129.76
	14	94.78	143.78
	16	108.14	157.80
	18	121.50	171.82
	20	134.86	185.84
42	7	52.48	107.54
	8	59.78	115.10
42	9	$67.08	$122.80
	10	74.40	130.44
	12	89.02	152.72
	14	103.64	161.00
	16	118.24	176.26
	18	132.86	191.54
	20	147.48	206.82
44	7	57.12	121.98
	8	65.08	130.28
	9	73.06	138.58
	10	81.02	146.88
	12	96.96	163.48
	14	112.88	180.06
	16	128.84	196.68
	18	144.78	213.28
	20	160.70	229.86
46	8	70.66	141.14
	9	79.32	150.12
	10	87.98	159.12
	12	105.30	177.10
	14	122.62	195.08
	16	139.94	213.06
	18	157.26	231.04
	20	174.58	249.02
	22	191.92	267.02
48	8	76.44	153.12
	9	85.82	162.84
	10	95.20	169.54
	12	113.96	191.96
	14	132.72	211.38
	16	151.48	230.80
	18	170.26	250.24
	20	189.02	269.06
	22	207.78	289 08
50	8	82.44	164.88
	9	92.56	175.34
	10	102.68	185.78
	12	122.96	206.72
	14	143.20	227.62
	16	163.46	248.54
	18	183.72	269.46
	20	203.98	290.38
	22	224.24	311.30
	24	244.48	332.20

Telegraph Code for Spur Paper Frictions

Use code for cast iron pulleys (see page 323) for diameter, face and bore, preceding description by the word Aperitive if complete paper frictions are required, and by the word Apert if friction fillers only are wanted.

Spur Iron Frictions

Fig. 45429. (*Appall*)

Price List, Subject to Discount

Diameter	Face	Price	Diameter	Face	Price	Diameter	Face	Price	Diameter	Face	Price
6	3	$3.58	8	5	$4.98	10	8	$7.70	12	8	$8.90
	4	3.92		6	5.54		9	8.40		9	9.74
	5	4.34		7	6.10		10	9.18		10	10.58
	6	4.84		8	6.66		12	10.72		12	12.26
	7	5.32		9	7.28		14	12.46		14	14.14
	8	5.82		10	7.98						
	9	6.30				11	4	5.54	13	4	6.24
	10	6.80	9	3	4.42		5	6.16		5	7.00
				4	4.84		6	6.86		6	7.84
7	3	3.86		5	5.32		7	7.56		7	8.68
	4	4.20		6	5.96		8	8.34		8	9.52
	5	4.68		7	6.52		9	9.04		9	10.44
	6	5.18		8	7.14		10	9.88		10	11.34
	7	5.68		9	7.84		12	11.48		12	13.16
	8	6.24		10	8.54		14	13.30		14	15.20
	9	6.80									
	10	7.36	10	4	5.18	12	4	5.88	14	4	6.58
				5	5.74		5	6.58		5	7.42
8	3	4.14		6	6.38		6	7.36		6	8.34
	4	4.48		7	7.00		7	8.12		7	9.18

Telegraph Code for Spur Iron Frictions

Use code for cast iron pulleys (see page 323) for diameter, face and bore, preceding description by the word Appall.

Spur Iron Frictions

Price List, Subject to Discount—Continued

Diameter	Face	Price	Diameter	Face	Price	Diameter	Face	Price	Diameter	Face	Price
14	8	$10.08	20	12	$21.00	30	14	$41.58	42	7	$38.58
	9	11.06		14	24.36		16	47.88		8	42.42
	10	12.04		16	27.72					9	46.28
	12	14.00				32	5	19.74		10	50.20
	14	16.24	22	5	11.84		6	22.48		12	58.24
				6	13.44		7	25.06		14	67.14
15	4	7.00		7	15.12		8	27.80		16	76.16
	5	7.92		8	16.80		9	31.08		18	85.40
	6	8.82		9	18.48		10	33.40		20	94.64
	7	9.74		10	20.30		12	39.20			
	8	10.72		12	23.80		14	45.72			
	9	11.76		14	27.58		16	52.44	44	7	41.66
	10	12.82		16	31.36					8	45.78
	12	14.98				34	5	21.70		9	49.92
	14	17.30	24	5	13.10		6	24.64		10	54.12
				6	14.92		7	27.58		12	62.86
16	4	7.42		7	16.80		8	30.46		14	72.24
	5	8.40		8	18.76		9	33.40		16	81.90
	6	9.38		9	20.72		10	36.54		18	91.70
	7	10.44		10	22.68		12	42.70		20	101.50
	8	11.48		12	26.60		14	49.84			
	9	12.60		14	30.80		16	56.98	46	8	49.22
	10	13.86		16	35.14					9	53.70
	12	16.04				36	6	26.88		10	58.18
	14	18.56					7	30.04		12	67.48
			26	5	14.64		8	33.18		14	77.42
17	4	7.92		6	16.66		9	36.40		16	87.64
	5	8.96		7	18.76		10	39.62		18	98.00
	6	10.02		8	20.86		12	46.34		20	108.36
	7	11.06		9	22.96		14	53.98		22	118.72
	8	12.26		10	25.20		16	61.60			
	9	13.44		12	29.54		18	69.30			
	10	14.64		14	34.38				48	8	52.72
	12	17.16		16	39.34	38	6	29.48		9	57.48
	14	19.82					7	32.84		10	62.24
			28	5	16.18		8	36.26		12	72.10
18	5	9.46		6	18.42		9	39.70		14	82.60
	6	10.64		7	20.72		10	43.12		16	93.38
	7	11.84		8	22.96		12	50.34		18	104.30
	8	13.02		9	25.28		14	58.32		20	115.22
	9	14.28		10	27.72		16	68.82		22	126.14
	10	15.54		12	32.62		18	74.90			
	12	18.28		14	37.94				50	8	56.42
	14	21.14		16	43.54	40	7	35.64		9	61.40
	16	24.08					8	39.34		10	66.44
			30	5	17.78		9	42.98		12	76.72
20	5	10.58		6	20.38		10	46.62		14	87.78
	6	12.04		7	22.68		12	54.26		16	99.20
	7	13.44		8	25.20		14	62.72		18	110.82
	8	14.84		9	27.72		16	73.72		20	122.36
	9	16.38		10	30.24		18	80.50		22	133.98
	10	17.92		12	35.70		20	89.18		24	145.74

Prices of larger sizes on application.

Telegraph Code for Spur Iron Frictions

Use code for cast iron pulleys (see page 323) for diameter, face and bore, preceding description by the word Appall.

Bevel and Miter Friction Wheels

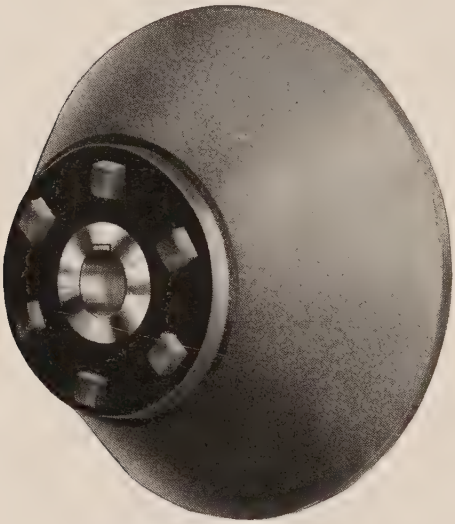


Fig. 45430. (*Appulsive*)
Bevel Paper Friction Wheel with Flanges.

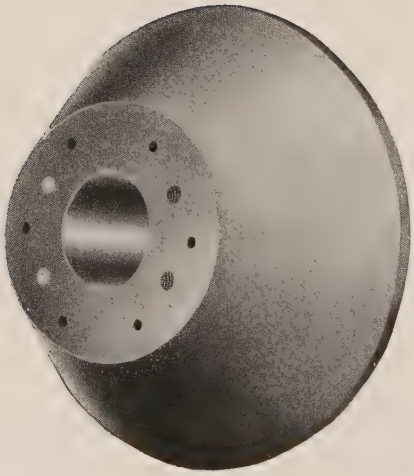


Fig. 45431. (*Appuyer*)
Bevel Paper Friction Filler.

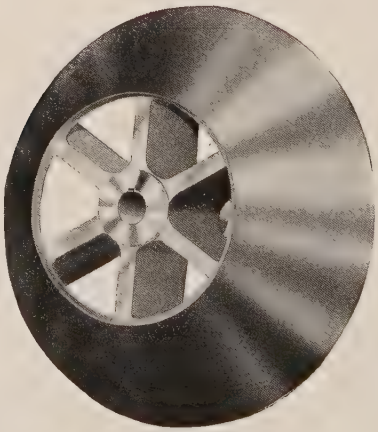
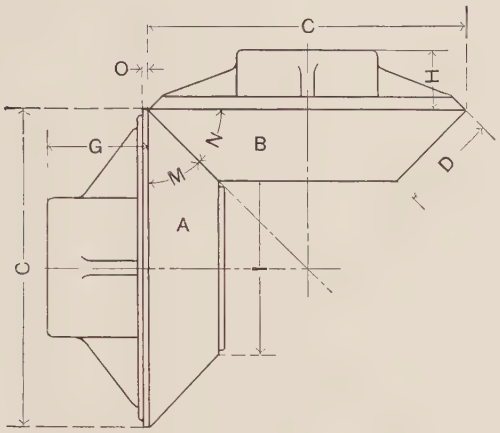


Fig 45432. (*Apres*)
Bevel Iron Friction Wheel.

Price List Miter Paper and Iron Frictions



A—Miter paper friction with flanges.
B—Miter iron friction.
C—Large diameter.
D—Face.
E—Price iron friction.
F—Price paper friction with flanges. See spur friction list, pages 354 and 355, for price miter paper fillers only.
G—Backing paper friction.
H—Backing iron friction.
I—Small diameter.
J—Largest shaft that can be used in paper friction.
K—Largest shaft that can be used in iron friction.
M—Angle paper friction, 45° 0′.
N—Angle iron friction, 45° 0′.
O—Backing paper filler.

C Inches	D Inches	E Price	F Price	G Inches	H Inches	I Inches	J Inches	K Inches	O Inches
4	1	$2.76	$2.18	2.	1.125	2.59	1.125	1.5	.5
6	1	3.26	2.76	2.25	1.25	4.59	2.125	2.75	.5625
	2	4.06	2.76	2.25	1.25	3.17	1.375	1.875	.5625
	3	5.08	2.94	2.25	1.25	1.76	.625	1.	.5625
8	2	4.86	3.76	2.5	1.5	5.17	2.375	3.25	.5625
	3	6.20	3.84	2.5	1.5	3.76	1.625	2.25	.5625
	4	7.32	4.58	2.5	1.5	2.34	.875	1.375	.5625
10	2	5.64	5.18	2.625	1.625	7.17	3.375	4.5	.625
	3	7.30	5.90	2.625	1.625	5.76	2.75	3.5	.625
	4	8.74	6.62	2.625	1.625	4.34	2.125	2.625	.625
12	2	6.40	6.36	2.75	1.75	9.17	4.5	5.5	.625
	3	8.38	7.32	2.75	1.75	7.76	3.75	4.75	.625
	4	10.14	8.28	2.75	1.75	6.34	3.	3.75	.625
	5	11.68	9.50	2.75	1.75	4.93	2.375	2.875	.625

Telegraph Code for Miter Paper and Iron Frictions

Use code for cast iron pulleys (see page 323) for diameter (at large end), face and bore, and precede description by word Lapponian if complete miter paper friction is wanted, by word Lappsack if friction filler only is wanted, and by word Lappstatt if iron friction is wanted.

Price List Miter Paper and Iron Frictions—Continued

C Inches	D Inches	E Price	F Price	G Inches	H Inches	I Inches	J Inches	K Inches	O Inches
14	3	$9.46	$9.48	2.875	1.875	9.76	4.75	6.	.6875
	4	11.54	10.74	2.875	1.875	8.34	4.	5.	.6875
	5	13.40	12.28	2.875	1.875	6.93	3.25	4.125	.6875
	6	15.04	13.84	2.875	1.875	5.52	2.625	3.375	.6875
16	4	12.94	12.78	3.	2.	10.34	5.	.....	.6875
	5	15.12	14.58	3.	2.	8.93	4.25	5.375	.6875
	6	17.08	16.42	3.	2.	7.52	3.625	4.625	.6875
	7	18.82	18.24	3.	2.	6.1	2.875	3.625	.6875
18	4	14.34	14.88	3.125	2.125	12.34	.....	.....	.75
	5	16.84	16.98	3.125	2.125	10.93	5.25	.....	.75
	6	19.12	19.08	3.125	2.125	9.52	4.625	5.875	.75
	7	21.18	21.18	3.125	2.125	8.1	3.875	4.875	.75
	8	23.02	23.26	3.125	2.125	6.69	3.125	4.	.75
20	5	18.56	21.36	3.25	2.25	12.93	.....	.....	.75
	6	21.16	23.76	3.25	2.25	11.52	5.625	.....	.75
	7	23.54	26.16	3.25	2.25	10.1	4.875	.....	.75
	8	25.70	28.54	3.25	2.25	8.69	4.125	5.25	.75
	9	27.64	31.06	3.25	2.25	7.27	3.5	4.5	.75
22	5	20.28	26.60	3.375	2.375	14.93	.....	.....	.8125
	6	23.20	29.34	3.375	2.375	13.52	.....	.....	.8125
	7	25.90	32.06	3.375	2.375	12.1	.....	.....	.8125
	8	28.38	34.78	3.375	2.375	10.69	5.125	.....	.8125
	9	30.64	37.66	3.375	2.375	9.27	4.5	5.625	.8125
	10	32.68	40.44	3.375	2.375	7.86	3.75	4.75	.8125
24	5	22 00	30.58	3.5	2.5	16.93	.....	.....	.8125
	6	25.24	33.64	3.5	2.5	15.52	.....	.....	.8125
	7	28.26	36.70	3.5	2.5	14.1	.....	.....	.8125
	8	31.06	39.74	3.5	2.5	12.69	.....	.....	.8125
	9	33.64	43.00	3.5	2.5	11.27	5.5	.....	.8125
	10	36.00	46.04	3.5	2.5	9.86	4.75	.....	.8125
	12	40.06	52.14	3.5	2.5	7.03	3.375	4.25	.8125
26	5	23.68	33.72	3.625	2.75	18.93	.....	.....	.875
	6	27.24	36.98	3.625	2.75	17.52	.....	.....	.875
	7	30.58	40.16	3.625	2.75	16.1	.....	.....	.875
	8	33.70	43.48	3.625	2.75	14.69	.....	.....	.875
	9	36.60	46.94	3.625	2.75	13.27	.....	.....	.875
	10	39.28	50.18	3.625	2.75	11.86	.....	.....	.875
	12	43.98	56.68	3.625	2.75	9.03	5.75	5.5	.875
28	6	29.24	42.98	3.75	2.875	19.52	.....	.....	.875
	7	32.90	46.84	3.75	2.875	18.1	.....	.....	.875
	8	36.34	50.70	3.75	2.875	16.69	.....	.....	.875
	9	39.56	54.78	3.75	2.875	15.27	.....	.....	.875
	10	42.56	58.64	3.75	2.875	13.86	.....	.....	.875
	12	47.90	66.36	3.75	2.875	11.03	.....	.....	.875
	14	52.36	74.08	3.75	2.875	8.2	5.375	4.875	.875

Telegraph Code for Miter Paper and Iron Frictions

Use code for cast iron pulleys (see page 323) for diameter (at large end), face and bore, and precede description by word Lapponian if complete miter paper friction is wanted, by word Lappsack if friction filler only is wanted, and by word Lappstatt if iron friction is wanted.

Price List Miter Paper and Iron Frictions—Continued

C Inches	D Inches	E Price	F Price	G Inches	H Inches	I Inches	J Inches	K Inches	O Inches
30	6	$31.24	$46.82	3.875	3.	21.52	.....	.....	.9375
	7	35.22	51.12	3.875	3.	20.1	.....	.....	.9375
	8	38.98	55.44	3.875	3.	18.69	.....	.....	.9375
	9	42.52	59.96	3.875	3.	17.27	.....	.....	.9375
	10	45.84	64.26	3.875	3.	15.86	.....	.....	.9375
	12	51.82	73.88	3.875	3.	13.03	.....	.....	.9375
	14	56.92	82.38	3.875	3.	10.2	5.	6.	.9375
32	6	33.20	53.24	4.	3.125	23.52	.....	.....	.9375
	7	37.50	58.01	4	3.125	22.1	.....	.....	.9375
	8	41.58	62.82	4.	3.125	20.69	.....	.....	.9375
	9	45.44	67.60	4.	3.125	19.27	.....	.....	.9375
	10	49.08	72.40	4.	3.125	17.86	.....	.....	.9375
	12	55.70	81.96	4.	3.125	15.03	.....	.....	.9375
	14	61.14	91.56	4.	3.125	12.02	.....	.....	.9375
	16	66.30	101.12	4.	3.125	9.37	4.5	5.625	.9375
34	6	35.16	62.94	4.125	3.25	25.52	.....	.....	1.000
	7	39.78	68.22	4.125	3.25	24.1	.....	.....	1.000
	8	44.18	73.50	4.125	3.25	22.69	.....	.....	1.000
	9	48.36	78.82	4.125	3.25	21.27	.....	.....	1.000
	10	52.32	84.12	4.125	3.25	19.86	.....	.....	1.000
	12	59.58	94.72	4.125	3.25	17.03	.....	.....	1.000
	14	65.96	105.32	4.125	3.25	14.2	.....	.....	1.000
	16	71.46	115.92	4.125	3.25	11.37	5.5	.....	1.000
36	6	37.12	70.02	4.25	3.375	27.52	.....	.....	1.000
	7	42.06	77.66	4.25	3.375	26.1	.....	.....	1.000
	8	46.78	83.52	4.25	3.375	24.69	.....	.....	1.000
	9	51.28	89.34	4.25	3.375	23.27	.....	.....	1.000
	10	55.56	95.18	4.25	3.375	21.86	.....	.....	1.000
	12	63.46	106.86	4.25	3.375	19.03	.....	.....	1.000
	14	70.48	118.54	4.25	3.375	16.2	.....	.....	1.000
	16	76.62	130.22	4.25	3.375	13.37	.....	.....	1.000
	18	81.88	141.88	4.25	3.375	10.54	5.125	.....	1.000
38	6	39.04	79.86	4.375	3.5	29.52	.....	.....	1.0625
	7	44.30	86.28	4.375	3.5	28.1	.....	.....	1.0625
	8	49.34	92.66	4.375	3.5	26.69	.....	.....	1.0625
	9	54.16	103.08	4.375	3.5	25.27	.....	.....	1.0625
	10	58.76	105.50	4.375	3.5	23.86	.....	.....	1.0625
	12	67.30	118.30	4.375	3.5	21.03	.....	.....	1.0625
	14	74.96	131.12	4.375	3.5	18.2	.....	.....	1.0625
	16	81.74	143.94	4.375	3.5	15.37	.....	.....	1.0625
	18	87.64	156.76	4.375	3.5	12.54	.....	.....	1.0625
40	8	51.90	101.74	4.5	3.625	28.69	.....	.....	1.125
	9	57.04	108.72	4.5	3.625	27.27	.....	.....	1.125
	10	61.96	115.75	4.5	3.625	25.86	.....	.....	1.125
	12	71.14	129.76	4.5	3.625	23.03	.....	.....	1.125
	14	79.44	143.78	4.5	3.625	20.2	.....	.....	1.125

Telegraph Code for Miter Paper and Iron Frictions.

Use code for cast iron pulleys (see page 323) for diameter (at large end), face and bore, and precede description by word Lapponian if complete miter paper friction is wanted, by word Lappsack if friction filler only is wanted, and by word Lappstatt if iron friction is wanted.

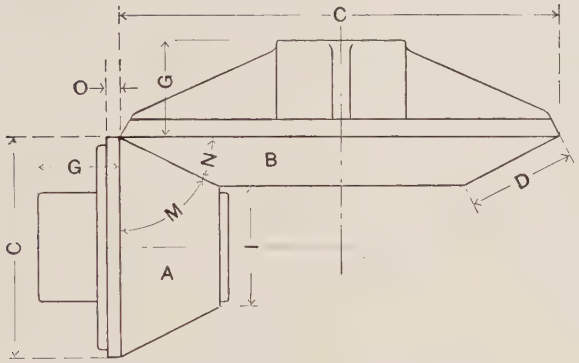
Price List Miter Paper and Iron Frictions—Continued

C Inches	D Inches	E Price	F Price	G Inches	H Inches	I Inches	J Inches	K Inches	O Inches
40	16	$86.86	$157.80	4.5	3.625	17.37	.....	.....	1.125
	18	93.40	171.82	4.5	3.625	14.54	.....	.....	1.125
	20	99.06	185.84	4.5	3.625	11.72	5.75	.....	1.125
42	8	54.46	115.10	4.625	3.875	30.69	.....	...	1.125
	9	59.92	122.80	4.625	3.875	29.27	...	..	1.125
	10	65.16	130.44	4.625	3.875	27.86	.. ..	..	1.125
	12	74.98	152.72	4.625	3.875	25.03	.....	....	1.125
	14	83.92	161.00	4.625	3.875	22.2	.....	...	1.125
	16	91.98	176.26	4.625	3.875	19.37	.....	.....	1.125
	18	99.16	191.54	4.625	3.875	16.54	.....	.....	1.125
	20	105.46	206.82	4.625	3.875	13.72	.....	.....	1.125
44	8	56.98	130.28	4.75	4.	32.69	.....	....	1.1875
	9	62.76	138.58	4.75	4.	31.27	.....	...	1.1875
	10	68.32	146.88	4.75	4.	29.86	.....	....	1.1875
	12	78.78	163.48	4.75	4.	27.03	.....	.....	1.1875
	14	88.36	180.06	4.75	4.	24.2	.....	.....	1.1875
	16	97.06	196.68	4.75	4.	21.37	.....	.....	1.1875
	18	104.88	213.28	4.75	4.	18.54	.....	.....	1.1875
	20	111.82	229.86	4.75	4.	15.72	.....	.....	1.1875
46	8	59.50	141.14	4.875	4.125	34.69	.....	.....	1 25
	9	65.60	150.12	4.875	4.125	33.27	....	.....	1.25
	10	71.48	159.12	4.875	4.125	31.86	....	.....	1.25
	12	82.58	177.10	4.875	4.125	29.03	.....	....	1.25
	14	92.80	195.08	4.875	4.125	26.2	.....	...	1.25
	16	102.14	213.06	4.875	4.125	23.37	.....	...	1.25
	18	110.60	231.04	4.875	4.125	20.54	.....	.....	1.25
	20	118.18	249.02	4.875	4.125	17.72	.....	.....	1.25
	22	124.88	267.02	4.875	4.125	14.89	.....	.....	1.15
48	8	62.02	153.12	5.	4.25	36.69	.....	.....	1.25
	9	68.44	162.84	5.	4.25	35.27	.....	.....	1.25
	10	74.64	169.54	5.	4.25	33.86	.....	....	1.25
	12	86.38	191.96	5.	4.25	31.03	....	....	1.25
	14	97.24	211.38	5.	4.25	28.2	.....	....	1.25
	16	107.22	230.80	5.	4.25	25.37	.....	...	1.25
	18	116.32	250.24	5.	4.25	22.54	.....	....	1.25
	20	124.54	269.06	5.	4.25	19.72	.....	.....	1.25
	22	131.88	289.08	5.	4.25	16.89	.....	....	1.25
50	10	77.76	185.78	5.25	4.375	35.86	.....	.....	1.3125
	12	90.14	206.72	5.25	4.375	33.03	.....	.....	1.3125
	14	101.64	227.62	5.25	4.375	30.2	.....	....	1.3125
	16	112.26	248.54	5.25	4.375	27.37	.....	.....	1.3125
	18	122.00	269.46	5.25	4.375	24.54	.....	.....	1.3125
	20	130.86	290.38	5.25	4.375	21.72	.....	.....	1.3125
	22	138.84	311.30	5.25	4.375	18.89	.....	.....	1.3125
	24	145.94	332.20	5.25	4.375	16.06	.....	.....	1.3125

Telegraph Code for Miter Paper and Iron Frictions.

Use code for cast iron pulleys (see page 323) for diameter (at large end), face and bore, and precede description by word Lapponian if complete miter paper friction is wanted, by word Lappsack if friction filler only is wanted, and by word Lappstatt if iron friction is wanted.

Price List Bevel Paper and Iron Frictions, Decreasing Speed 2 to 1



A—Bevel paper friction with flanges.
B—Bevel iron friction.
C—Large diameter.
D—Face.
E—Price paper friction with flanges and iron friction.
F—Price paper filler only.
G—Backing.
I—Small diameter.
J—Largest shaft that can be used.
M—Angle paper friction, 63° 26′.
N—Angle iron friction, 26° 34′.
O—Backing paper filler.

	C Inches	D Inches	CODE WORD	E Price	F Price	G Inches	I Inches	J Inches	O Inches
A	4	2	Archiater	$2.12	$0.88	2.125	2.21	.875	.5625
B	8	2	Archiater	4.86	.....	2.	4.42	2.75	....
A	6	2	Architect	2.76	.96	2.25	4.21	2.	.625
B	12	2	Architect	6.40	.....	2.625	8.42	5.25	....
A	6	3	Architrave	2.80	1.14	2.25	3.32	1.375	.625
B	12	3	Architrave	8.38	.....	2.625	6.63	4.	....
A	8	3	Archives	3.82	1.62	2.5	5.32	2.5	.625
B	16	3	Archives	10.54	.....	3.125	10.63	.....	....
A	8	4	Archness	4.58	2.14	2.5	4.42	2.125	.625
B	16	4	Archness	12.94	.....	3.125	8.85	5.375	....
A	8	5	Archway	5.28	2.64	2.5	3.53	1.5	.625
B	16	5	Archway	15.12	.....	3.125	7.06	4.25	....
A	10	4	Archwise	6.62	3.46	2.625	6.42	3.125	.6875
B	20	4	Archwise	15.74	.....	3.625	12.85	.....	....
A	10	5	Arctation	7.60	4.18	2.625	5.53	2.625	.6875
B	20	5	Arctation	18.56	.....	3.625	11.06	.....	....
A	10	6	Arcuature	8.60	4.90	2.625	4.63	2.125	.6875
B	20	6	Arcuature	21.16	.....	3.625	9.27	5.625	....
A	12	4	Ardency	8.28	4.46	2.75	8.42	4.125	.6875
B	24	4	Ardency	18.54	.....	4.125	16.85	.....	....
A	12	5	Ardent	9.50	5.42	2.75	7.53	3.625	.6875
B	24	5	Ardent	22.00	.....	4.125	15.06	.....	....

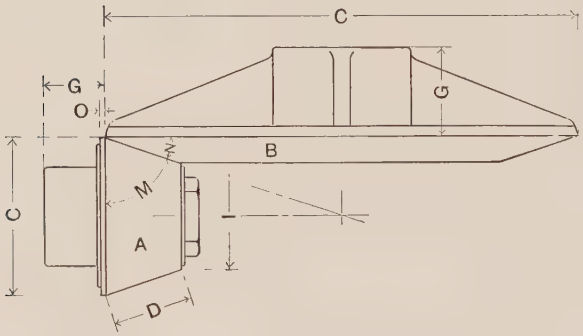
Price List Bevel Paper and Iron Frictions, Decreasing Speed 2 to 1—Continued

	C Inches	D Inches	CODE WORD	E Price	F Price	G Inches	I Inches	J Inches	O Inches
A	12	6	Ardoise	$10.72	$6.38	2.75	6.63	3.125	.6875
B	24	6	Ardoise	25.24	.....	4.125	13.27	.....	....
A	12	7	Ardour	11.96	7.34	2.75	5.74	2.75	.6875
B	24	7	Ardour	28.26	.....	4.125	11.48	.....	....
A	12	8	Arduity	13.20	8.30	2.75	4.85	2.25	.6875
B	24	8	Arduity	31.06	.....	4.125	9.69	6.	....
A	14	4	Arduo	10.74	5.96	2.875	10.42	5.125	.75
B	28	4	Arduo	21.26	.....	4.625	20.85	.....	....
A	14	5	Areca	12.28	7.20	2.875	9.53	4.625	.75
B	28	5	Areca	25.36	.....	4.625	19.06	.....	...
A	14	6	Arefaction	13.84	8.44	2.875	8.63	4.125	.75
B	28	6	Arefaction	29.24	.....	4.625	17.27	.....	....
A	14	7	Arefy	15.38	9.86	2.875	7.74	3.75	.75
B	28	7	Arefy	32.90	.....	4.625	15.48	.....	....
A	14	8	Areole	16.96	10.72	2.875	6.85	3.25	.75
B	28	8	Areole	36.34	.....	4.625	13.69	.....	....
A	14	10	Areotic	20.16	13.40	2.875	5.06	2.375	.75
B	28	10	Areotic	42.56	.....	4.625	10.11	.....	....
A	16	5	Aretology	14.58	8.34	3.	11.53	5.625	.75
B	32	5	Aretology	28.68	.....	5.25	23.06	.....	....
A	16	6	Argental	16.42	9.82	3.	10.63	5.125	.75
B	32	6	Argental	33.20	.....	5.25	21.27	.....	....
A	16	7	Argenteur	18.24	11.28	3.	9.74	4.75	.75
B	32	7	Argenteur	37.50	.....	5.25	19.48	.....	....
A	16	8	Argillous	20.06	12.74	3.	8.85	4.25	.75
B	32	8	Argillous	41.58	.....	5.25	17.69	.....	....
A	16	10	Argosy	23.84	15.68	3.	7.06	3.375	.75
B	32	10	Argosy	49.08	.....	5.25	14.11	.....	....
A	16	12	Arguable	27.50	18.62	3.	5.27	2.5	.75
B	32	12	Arguable	55.70	.....	5.25	10.53	.....	....
A	18	6	Argue	19.08	11.46	3.125	12.63	.....	.8125
B	36	6	Argue	37.12	.....	5.75	25.27	.....	....
A	18	7	Argument	21.18	13.20	3.125	11.74	5.75	.8125
B	36	7	Argument	42.06	.....	5.75	23.48	.....	....
A	18	8	Arianism	23.26	14.92	3.125	10.85	5.25	.8125
B	36	8	Arianism	46.78	.....	5.75	21.69	.....	....
A	18	10	Arid	27.58	18.40	3.125	9.06	4.375	.8125
B	36	10	Arid	55.56	.....	5.75	18.11	.....	....
A	18	12	Aridity	31.78	21.88	3.125	7.27	3.5	.8125
B	36	12	Aridity	63.46	.....	5.75	14.53	.....	....
A	18	14	Arietate	35.98	25.36	3.125	5.48	2.625	.8125
B	36	14	Arietate	70.48	.....	5.75	10.96	.....	....

Price List Bevel Paper and Iron Frictions, Decreasing Speed 2 to 1—Continued

	C Inches	D Inches	CODE WORD	E Price	F Price	G Inches	I Inches	J Inches	O Inches
A	20	7	Arillate	$26.16	$15.30	3.25	13.74	.....	.8125
B	40	7	Arillate	46.54	.....	6.25	27.48	.....	....
A	20	8	Arisen	28.54	17.32	3.25	12.85	.....	.8125
B	40	8	Arisen	51.90	.....	6.25	25.69	.....	....
A	20	10	Aristocrat	33.46	21.40	3.25	11.06	5.375	.8125
B	40	10	Aristocrat	61.96	.....	6.25	22.11	.....	....
A	20	12	Arithmetic	38.24	25.46	3.25	9.27	4.5	.8125
B	40	12	Arithmetic	71.14	.....	6.25	18.53	.....	....
A	20	14	Arizarum	43.04	29.54	3.25	7.48	3.625	.8125
B	40	14	Arizarum	79.44	.....	6.25	14.96	.....	....
A	20	16	Ark	47.82	33.60	3.25	5.69	2.75	.8125
B	40	16	Ark	86.86	.....	6.25	11.38	.....	....
A	22	7	Armada	32.06	17.62	3.375	15.74	.....	.875
B	44	7	Armada	50.98	.....	6.75	31.48	.....	....
A	22	8	Armadillo	34.78	19.98	3.375	14.85	.....	.875
B	44	8	Armadillo	56.98	.....	6.75	29.69	.....	....
A	22	10	Armament	40.44	24.72	3.375	13.06	.....	.875
B	44	10	Armament	68.32	.....	6.75	26.11	.....	....
A	22	12	Armbone	45.88	29.44	3.375	11.27	5.5	.875
B	44	12	Armbone	78.78	.....	6.75	22.53	.....	....
A	22	14	Armchair	51.34	34.18	3.375	9.48	4.625	.875
B	44	14	Armchair	88.36	.....	6.75	18.96	.....	....
A	22	16	Armeline	56.88	38.90	3.375	7.69	3.75	.875
B	44	16	Armeline	97.06	.....	6.75	15.38	.....	....
A	22	18	Armentose	62.22	43.62	3.375	5.90	2.75	.875
B	44	18	Armentose	104.88	.....	6.75	11.80	.....	....
A	24	8	Armful	39.74	22.88	3.5	16.85	.. ..	.875
B	48	8	Armful	62.02	.....	7.25	33.69	.....	....
A	24	10	Armhole	46.04	28.32	3.5	15.06	.....	.875
B	48	10	Armhole	74.64	.....	7.25	30.11	.....	....
A	24	12	Armisonant	52.14	33.76	3.5	13.27	.....	.875
B	48	12	Armisonant	86.38	.....	7.25	26.53	.....	....
A	24	14	Armistice	58.24	39.20	3.5	11.48	5.625	.875
B	48	14	Armistice	97.24	.....	7.25	22.96	.....	....
A	24	16	Armlet	64.14	44.64	3.5	9.69	4.75	.875
B	48	16	Armlet	107.22	.....	7.25	19.38	.....	....
A	24	18	Armorer	70.46	50.08	3.5	7.90	3.75	.875
B	48	18	Armorer	116.32	.....	7.25	15.80	.....	....
A	24	20	Armorial	76.24	55.52	3.5	6.11	2.875	.875
B	48	20	Armorial	124.54	.....	7.25	12.22	.....	....

Price List Bevel Paper and Iron Frictions, Decreasing Speed 3 to 1



A—Bevel paper friction with flanges.
B—Bevel iron friction.
C—Large diameter.
D—Face.
E—Price paper friction with flanges and iron friction.
F—Price paper filler only.
G—Backing.
I—Small diameter.
J—Largest shaft that can be used.
M—Angle paper friction, 71° 34′.
N—Angle iron friction, 18° 26′.
O—Backing paper filler.

	C Inches	D Inches	CODE WORD	E Price	F Price	G Inches	I Inches	J Inches	O Inches
A	4	2	Armour	$2.12	$0.88	2.25	2.74	1.125	.6875
B	12	2	Armour	6.40	.....	3.125	8.21	4.875	....
A	6	3	Armpit	2.82	1.14	2.375	4.10	1.875	.75
B	18	3	Armpit	11.62	.....	4.125	12.31	.....	....
A	6	4	Arnica	3.28	1.48	2.375	3.47	1.5	.75
B	18	4	Arnica	14.34	.....	4.125	10.41	.....	....
A	8	4	Aromatic	4.58	2.14	2.625	5.47	2.625	.8125
B	24	4	Aromatic	18.54	.....	5.	16.41	.....	....
A	8	5	Aroused	5.28	2.64	2.625	4.84	2.25	.8125
B	24	5	Aroused	22.00	.....	5.	14.51	.....	....
A	8	6	Arpent	6.04	3.16	2.625	4.21	2.	.8125
B	24	6	Arpent	25.24	.....	5.	12.62	.....	....
A	10	4	Arquebus	6.62	3.46	2.75	7.47	3.625	.8125
B	30	4	Arquebus	22.62	.....	6.	22.41	.....	....
A	10	5	Arrachage	7.60	4.18	2.75	6.84	3.25	.8125
B	30	5	Arrachage	27.04	.....	6.	20.51	.....	....
A	10	6	Arraign	8.60	4.90	2.75	6.21	3.	.8125
B	30	6	Arraign	31.24	.....	6.	18.62	.....	....

Price List Bevel Paper and Iron Frictions, Decreasing Speed 3 to 1—Continued

	C Inches	D Inches	CODE WORD	E Price	F Price	G Inches	I Inches	J Inches	O Inches
A	10	7	Arrant	$ 9.58	$ 5.62	2.75	5.57	2.625	.8125
B	30	7	Arrant	35.22	.....	6.	16.72	.....	....
A	10	8	Arrayed	10.58	6.34	2.75	4.94	2.375	.8125
B	30	8	Arrayed	38.98	.....	6.	14.82	.....	....
A	12	5	Arrearage	9.50	5.42	2.875	8.84	4.25	.875
B	36	5	Arrearage	31.96	.....	7.	26.51	.....	....
A	12	6	Arrears	10.72	6.38	2.875	8.21	4.	.875
B	36	6	Arrears	37.12	.....	7.	24.62	.....	....
A	12	7	Arrectary	11.96	7.34	2.875	7.57	3.625	.875
B	36	7	Arrectary	42.06	.....	7.	22.72	.....	....
A	12	8	Arrimer	13.20	8.30	2.875	6.94	3.375	.875
B	36	8	Arrimer	46.78	.....	7.	20.82	.....	....
A	12	10	Arrogance	15.74	10.22	2.875	5.68	2.625	.875
B	36	10	Arrogance	55.56	.....	7.	17.03	.....	....
A	14	6	Arrogantly	13.84	8.44	3.	10.21	5.	.9375
B	42	6	Arrogantly	42.88	.....	8.	30.62	.....	....
A	14	7	Arrogation	15.38	9.68	3.	9.57	4.625	.9375
B	42	7	Arrogation	48.78	.....	8.	28.72	.....	....
A	14	8	Arrondir	16.96	10.92	3.	8.94	4.375	.9375
B	42	8	Arrondir	54.46	.....	8.	26.82	.....	....
A	14	10	Arrosage	20.16	13.40	3.	7.68	3.625	.9375
B	42	10	Arrosage	65.16	.....	8.	23.03	.....	....
A	14	12	Arrosion	23.26	15.88	3.	6.41	3.	.9375
B	42	12	Arrosion	74.98	.....	8.	19.23	.....	....
A	14	14	Arrow	26.38	18.38	3.	5.15	2.375	.9375
B	42	14	Arrow	83.92	.....	8.	15.44	.....	....
A	16	7	Arrowhead	18.24	11.28	3.125	11.57	5.625	.9375
B	48	7	Arrowhead	55.38	.....	9.	34.72	.....	....
A	16	8	Arsenal	20.06	12 74	3.125	10.94	5.25	.9375
B	48	8	Arsenal	62.02	.....	9.	32.82	.....	....
A	16	10	Arsenicate	23.84	15.68	3.125	9.68	4.625	.9375
B	48	10	Arsenicate	74.64	.....	9.	29.03	.....	....
A	16	12	Arterial	27.50	18.62	3.125	8.41	4.125	.9375
B	48	12	Arterial	86.38	.....	9.	25.23	.....	....
A	16	14	Artery	31.44	21.54	3.125	7.15	3.375	.9375
B	48	14	Artery	97.24	.....	9.	21.44	.....	....
A	16	16	Artful	34.80	24.48	3.125	5.88	2.75	.9375
B	48	16	Artful	107.22	.....	9.	17.64	.....	....

Paper Cone and Iron Cup Frictions

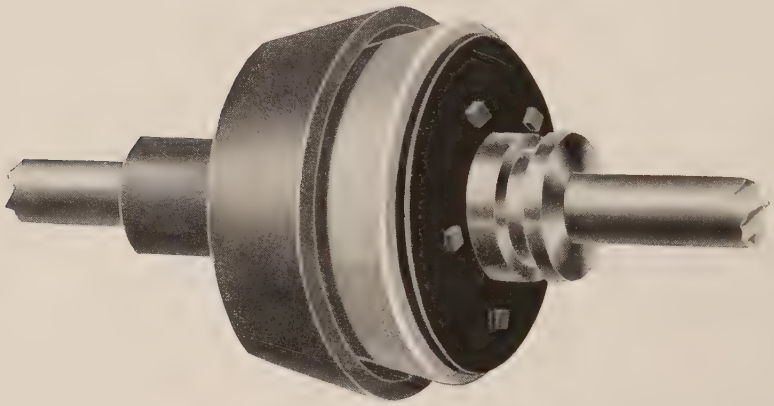


Fig. 45433. (*Artfully*)

For use where for any reason friction clutches cannot be employed. A pulley, gear or sprocket wheel may be fastened to the hub of the iron cup.

Friction Arrangement for Reversing Motion

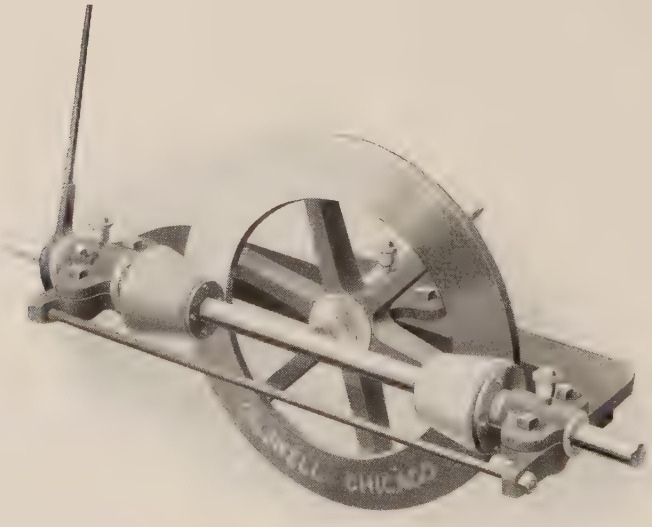


Fig. 45434. (*Artfulness*)

Caldwell Gears

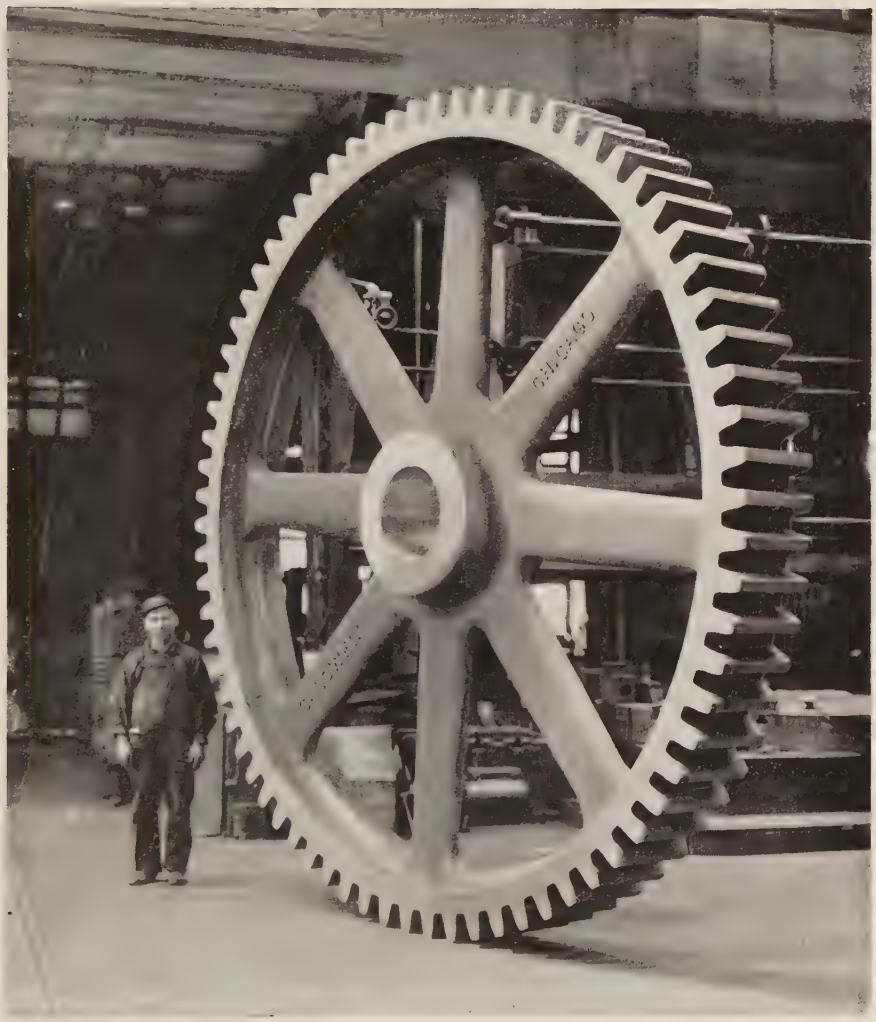
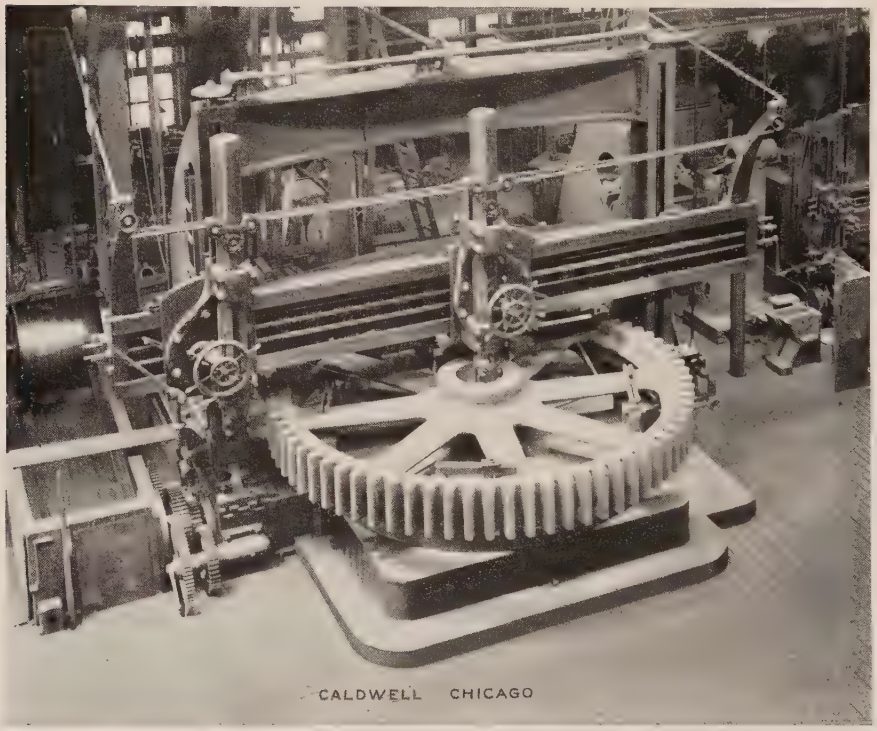


Fig. 45435. (*Limnacide*)
Large Machine Molded Spur Gear

Caldwell Gears



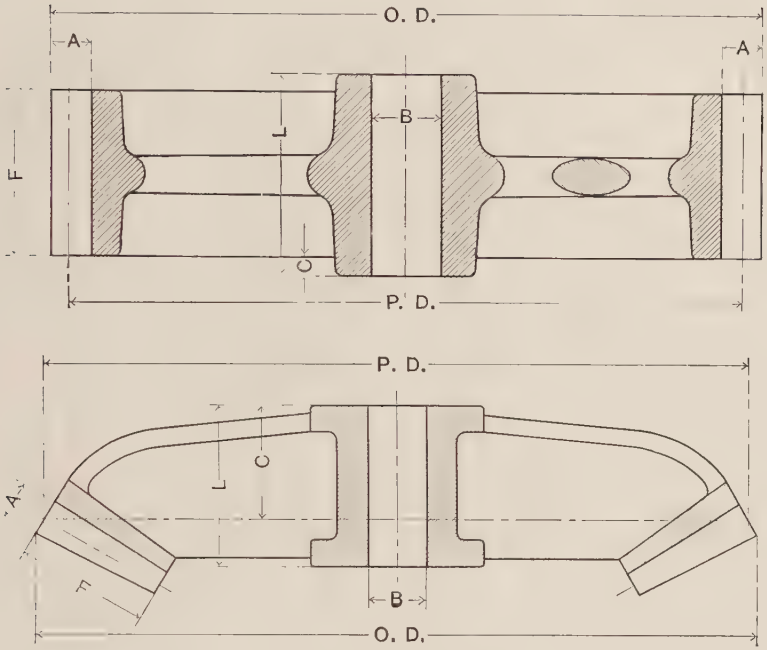
Our line of gear patterns and equipment of gear molding machinery for making Machine Molded Gears makes our gear list the most complete published. By the machine molding process all of the teeth in a gear are molded from an accurate single tooth-pattern, the spacing being done by accurate machinery. A machine molded gear is, therefore, more accurate and better balanced than a pattern molded gear, and as nearly perfect as a cast tooth gear can be made.

While for high rim speeds it is generally necessary to use cut tooth gears, for slow and moderate speeds machine molded cast tooth gears are generally equally satisfactory, and considerably less expensive. Under ordinary conditions we do not recommend a rim speed in excess of 1,250 feet per minute for machine molded gears, although with large gears of coarse pitch, drives have been entirely satisfactory at 1,600 feet per minute under severe service. We make both cast tooth and cut tooth gears, and can recommend and furnish the type of gears which will give the best service.

Shrouding, or casting a flange on one or both ends of the tooth, strengthens the tooth and is recommended particularly for small pinions running with large gears, where the drive is heavily loaded or subject to shock.

Cast steel gears have approximately two and one-half times the strength of cast iron gears. Cast steel pinions are often used on heavy drives, in connection with cast iron gears.

Special Gears



Because of the comparatively small pattern expense required in the machine molding process, we can duplicate old gears not of our manufacture at reasonable cost. Orders for special gears should specify the following points:

1. Are gears spur, bevel or miter?
2. Cast tooth, cut tooth or mortise gear?
3. Speed in revolutions per minute.
4. Horse power transmitted.
5. Number of teeth.
6. Number of teeth in mating gear.
7. Width and depth of keyseat.
8. Is keyseat straight or taper, and if taper keyseat with a bevel or miter gear, does key drive from face or back?
9. Give *all* dimensions asked for in above diagram, being careful to state exact size of bore. If bore is large, send wire gauge.
10. Send a marking of the shape of teeth. Make this by placing a stiff piece of paper on the ends of the teeth, and marking around three or four teeth with a sharp pencil. For bevel and miter gears, send marking of both ends of teeth.

Cast Tooth Spur Gears

Fig. 45436. (*Landhoeven*)

The following price list covers Cast Iron Cast Tooth Spur Gears, bored and keyseated or set screwed, with faces of widths specified. Special widths of face can be furnished at additional charge. Extra charges will also be made for bores unusually large in proportion to size of gear, for extra long hubs, or for hubs faced on both ends.

Cast Steel Spur Gears can be furnished for heavy service. Prices upon application.

Small pinions should be shrouded when running with large gears on heavy drives. Prices on shrouded pinions quoted upon application.

In telegraphing, use code words in list and follow with code word for bore from table below. Always specify whether gear is to be keyseated or setscrewed.

Code for Bore of Gears

Inches	CODE WORD	Inches	CODE WORD	Inches	CODE WORD	Inches	CODE WORD
1 5/16	Anglers	1 7/8	Anhydrous	2 7/8	Annals	4 3/16	Annotation
1	Anglican	1 15/16	Anility	2 15/16	Anneal	4 1/4	Annotatory
1 1/8	Anglicisms	2	Animadvert	3	Annealing	4 3/8	Annoyer
1 3/16	Angostura	2 1/8	Animal	3 3/16	Annectant	4 7/16	Annoyance
1 1/4	Angouleme	2 3/16	Animalcule	3 1/4	Annex	4 1/2	Annoyful
1 3/8	Angrily	2 1/4	Animalist	3 3/8	Annexary	4 11/16	Annualist
1 7/16	Angry	2 3/8	Animated	3 7/16	Annexation	4 3/4	Annuitant
1 1/2	Anguish	2 7/16	Animating	3 1/2	Annexment	4 15/16	Annuity
1 9/16	Angular	2 1/2	Animose	3 11/16	Annihilate	5	Annular
1 5/8	Angularity	2 5/8	Animosity	3 3/4	Anniverse	5 7/16	Annulation
1 11/16	Angulated	2 11/16	Anise	3 7/8	Annodon	5 1/2	Annulment
1 3/4	Angustate	2 3/4	Ankle	3 15/16	Annolis	5 15/16	Annunciate
1 13/16	Anhelation	2 13/16	Anklebone	4	Annotate	6	Anode

Cast Tooth Spur Gears

1/2" Pitch

Pattern Number	Price Bored with K. S. or S. S.	CODE WORD	Number of Teeth	Pitch Diameter, in Inches	Pitch Circumference, in Feet	Face, Inches	Standard Length Through Hub, Inches
*1½16	$1.85	Daagjes	16	2.56	.670	1¼	...

5/8" Pitch

5013	$1.75	Daagster	13	2.61	.683	1¾	..
*1⅝14	1.85	Daarchter	14	2.81	.736	1¾	.
*1⅝15	1.95	Daagsch	15	3.01	.788	1½	..
*1⅝24	3.00	Daarbinnen	24	4.79	1.254	1½	...

3/4" Pitch

6011	$1.60	Daarboven	11	2.66	.698	1¾	2¼
6013	1.90	Daarlangs	13	3.13	.820	1¾	2¼
6014	2.05	Daarlaten	14	3.37	.882	1¾	2¼
*1¾14	2.05	Laimodon	14	3.37	.882	1¾	2¼
6015	2.20	Monopastes	15	3.61	.945	1¾	2¼
*1¾15	2.20	Daarmede	15	3.61	.945	1¾	2¼
6017	2.40	Daarnevens	17	4.08	1.068	1¾	2¼
6021	3.00	Daarom	21	5.03	1.317	1¾	2¼
6030	4.20	Daaronder	30	7.18	1.878	1¾	2¼
6033	4.60	Daarover	33	7.89	2.065	1¾	2¼
*1¾39	5.70	Daartegen	39	9.32	2.440	1¾	2¼
*1¾46	6.60	Daarvoor	46	10.99	2.877	1¾	2¼
6047	6.75	Dabamos	47	11.23	2.940	1¾	2¼
6050-A	7.70	Limitrophe	50	11.94	3.12	2	2½
6060	8.60	Dabbenezza	60	14.33	3.753	1¾	2½
6067-A	9.50	Dabudda	67	16.00	4.189	1½	2½
6072	10.20	Dabchick	72	17.19	4.503	1¾	2½
6102-A	15.10	Dablarum	102	24.36	6.376	2	2¾

4 Diametral Pitch

6¼012	$ 1.90	Monstrabo	12	3.00	.785	1¾	2¼
6¼014	2.20	Monstravit	14	3.50	.916	1¾	2¼
6¼015	2.35	Dacarath	15	3.75	.982	1¾	2¼
6¼018	2.80	Montanesco	18	4.50	1.178	1¾	2¼
6¼032	4.85	Dachbalken	32	8.00	2.094	1¾	2¼
6¼036	5.45	Dachfahne	36	9.00	2.356	1¾	2¼
6¼042	6.25	Dachgiebel	42	10.50	2.749	1¾	2¼

7/8" Pitch

*1⅞13	$ 2.45	Dachhaken	13	3.66	.958	2¼	...
*1⅞22	4.10	Dachholz	22	6.15	1.610	2¼	...
*1⅞33	5.85	Dachkasten	33	9.21	2.411	2¼	...
7040-A	7.00	Dachkehle	40	10.96	2.869	2⅝	2¾
*1⅞46	7.90	Dachloch	46	12.82	3.356	2	...

NOTE—By our Machine Molding Process we can furnish Gears of any kind or dimension with comparatively small pattern expense.

For Cut Gear lists, see pages 482 to 502.

Cast Tooth Spur Gears

1″ Pitch

Cast Iron Spur Gears 1″ pitch, 2½″ face, under ordinary conditions, will transmit 3.06 H. P. at 100 feet per minute on the pitch line, 4.67 H. P. at 200 feet, 6.10 H. P. at 300 feet, 8.55 H. P. at 500 feet, 11.36 H. P. at 750 feet, 13.72 H. P. at 1,000 feet, 15.93 H. P. at 1,250 feet.

Small pinions running with large gears should be shrouded for full load.

Pattern Number	Price Bored with K. S. or S. S.	CODE WORD	Number of Teeth	Pitch Diameter, in Inches	Pitch Circumference, in Feet	Face, Inches	Standard Length Through Hub, Inches
8010	$ 2.50	Dabbing	10	3.24	.848	2½	3
8011	2.65	Dabbler	11	3.55	.930	2½	3
8012	2.85	Dabovis	12	3.86	1.011	2½	3
*1112	2.85	Lainage	12	3.86	1.011	2½	3
8013	3.05	Dactillon	13	4.18	1.094	2½	3
8014	3.25	Dadais	14	4.49	1.175	2½	3
*1114	3.25	Lainerie	14	4.49	1.175	2½	3
8015	3.40	Daddy	15	4.81	1.260	2½	3
*1115	3.40	Laineux	15	4.81	1.260	2½	3
8016	3.55	Daglock	16	5.13	1.345	2½	3
*1116	3.55	Lairds	16	5.13	1.345	2½	3
8017	3.75	Dagorne	17	5.44	1.424	2½	3
8018	3.95	Dagswain	18	5.76	1.508	2½	3
8019	4.15	Daigner	19	6.08	1.592	2½	3
8020	4.30	Dainties	20	6.39	1.673	2½	3
8021	4.50	Daintiness	21	6.71	1.757	2½	3
*1121	4.50	Laische	21	6.71	1.757	2½	3
8022	4.70	Daintrel	22	7.03	1.840	2½	3
8023	4.90	Dairy	23	7.34	1.922	2½	3
8024	5.10	Dairymaid	24	7.66	2.005	2½	3
8025	5.30	Daisied	25	7.98	2.090	2½	3
*1125	5.30	Laissade	25	7.98	2.090	2½	3
8026	5.50	Dallage	26	8.30	2.173	2½	3
8027	5.65	Dallador	27	8.62	2.257	2½	3
8028	5.85	Dalliance	28	8.93	2.338	2½	3
8029	6.05	Dallying	29	9.25	2.422	2½	3
8030	6.25	Dalmatica	30	9.57	2.505	2½	3
8031	6.45	Damascene	31	9.88	2.587	2½	3
8032	6.65	Damasquete	32	10.20	2.670	2½	3
8033	6.80	Damasseur	33	10.52	2.754	2½	3
8034	7.00	Dame	34	10.85	2.838	2½	3
8035	7.20	Dameret	35	11.16	2.922	2½	3
8036	7.40	Damoisean	36	11.47	3.003	2½	3
8037	7.60	Dampish	37	11.79	3.086	2½	3
8038	7.80	Dampness	38	12.11	3.170	2½	3¼
8039	8.00	Damsel	39	12.42	3.254	2½	3¼
8040	8.20	Dancers	40	12.75	3.338	2½	3¼
8042	8.55	Dancing	42	13.38	3.504	2½	3¼
8044	8.95	Dandelion	44	14.02	3.670	2½	3¼
8045	9.15	Dandified	45	14.34	3.753	2½	3¼
8046	9.35	Dandify	46	14.65	3.836	2½	3¼
8047	9.55	Limnatidis	47	14.97	3.920	2½	3¼
8048	9.75	Dardiner	48	15.29	4.003	2½	3¼
8049	9.95	Dandiprat	49	15.61	4.086	2½	3¼
8050	10.15	Dandler	50	15.92	4.169	2½	3¼
*1150	10.15	Laisse	50	15.92	4.169	2½	3¼
8052	10.55	Dandruff	52	16.56	4.335	2½	3¼

NOTE—By our Machine Molding Process, we can furnish Gears of any kind or dimension with comparatively small pattern expense.

For Cut Gear lists, see pages 482 to 502.

Cast Tooth Spur Gears
1″ Pitch—Continued

For Horse Power transmitted by Spur Gears 1″ pitch
See opposite page

Pattern Number	Price Bored with K. S. or S. S.	CODE WORD	Number of Teeth	Pitch Diameter, in Inches	Pitch Circumference, in Feet	Face, Inches	Standard Length Through Hub, Inches
8053	$10.70	Dandyism	53	16.88	4.418	2½	3¼
8054	10.90	Dandyling	54	17.20	4.501	2½	3¼
8055	11.10	Danevort	55	17.52	4.585	2½	3¼
8056	11.30	Dangerless	56	17.83	4.668	2½	3¼
8058	11.70	Dangle	58	18.47	4.835	2½	3½
8060	12.10	Damois	60	19.11	5.003	2½	3½
8062	12.50	Dansant	62	19.74	5.169	2½	3½
8063	12.70	Danzador	63	20.06	5.252	2½	3½
8064	12.90	Dapatical	64	20.38	5.335	2½	3½
8065	13.10	Laissions	65	20.70	5.418	2½	3½
8066	13.50	Dapper	66	21.02	5.502	2½	3½
8067	14.00	Dapperling	67	21.33	5.585	2½	3½
8068	14.80	Darder	68	21.65	5.668	2½	3½
8069	15.60	Dareful	69	21.98	5.752	2½	3½
8070	16.40	Laitcher	70	22.29	5.836	2½	3½
8071	17.20	Laity	71	22.61	5.919	2½	3½
8072	18.00	Daring	72	22.93	6.003	2½	3½
8073	18.80	Laivos	73	23.24	6.087	2½	3½
8074	19.60	Daringness	74	23.56	6.171	2½	3½
8075	20.40	Darken	75	23.88	6.255	2½	3½
8076	20.90	Darkling	76	24.20	6.338	2½	3¾
8077	21.55	Lakachtig	77	24.52	6.422	2½	3¾
8078	22.00	Darkness	78	24.83	6.506	2½	3¾
8079	22.55	Darksome	79	25.15	6.590	2½	3¾
8080	23.10	Darn	80	25.47	6.674	2½	3¾
8081	23.65	Darning	81	25.79	6.757	2½	3¾
8082	24.20	Lakelike	82	26.10	6.841	2½	3¾
8083	24.75	Dartingly	83	26.42	6.925	2½	3¾
8084	25.30	Dashing	84	26.74	7.008	2½	3¾
8085	25.85	Dastardly	85	27.06	7.092	2½	3¾
8086	26.40	Lakenhal	86	27.38	7.176	2½	3¾
8087	26.95	Lakenmaker	87	27.70	7.260	2½	3¾
8088	27.50	Daterie	88	28.02	7.343	2½	3¾
8089	28.05	Dartary	89	28.34	7.427	2½	3¾
8090	28.60	Lakennaald	90	28.65	7.511	2½	3¾
8091	29.15	Lakende	91	28.97	7.592	2½	3¾
8092	29.70	Dateless	92	29.29	7.673	2½	3¾
8093	30.25	Lakenpers	93	29.61	7.754	2½	3¾
8094	30.80	Datholite	94	29.93	7.836	2½	3¾
8095	31.35	Lakenraram	95	30.24	7.917	2½	3¾
8096	31.90	Datilado	96	30.56	8.001	2½	4
8097	32.45	Lakensarge	97	30.88	8.085	2½	4
8098	33.00	Datisme	98	31.20	8.168	2½	4
8099	33.55	Lakensch	99	31.52	8.252	2½	4
8100	34.10	Dative	100	31.84	8.336	2½	4
8102	34.90	Lakenspeld	102	32.47	8.502	2½	4

NOTE.—By our Machine Molding Process we can furnish Gears of any kind or dimension with comparatively small pattern expense.

For Cut Gear Lists, see pages 482 to 502.

Cast Tooth Spur Gears
1″ Pitch—Continued

For Horse Power transmitted by Spur Gears, 1″ pitch
See page 374

Pattern Number	Price Bored with K. S. or S. S.	CODE WORD	Number of Teeth	Pitch Diameter, in Inches	Pitch Circumference, in Feet	Face, Inches	Standard Length Through Hub, Inches
8104	$35.70	Daubiere	104	33.11	8.669	2½	4
8105	36.10	Lakenwever	105	33.43	8.753	2½	4
8106	36.50	Lakeware	106	33.75	8.836	2½	4
8108	37.30	Daubing	108	34.38	9.000	2½	4
8110	38.10	Dauntless	110	35.02	9.166	2½	4
8111	38.50	Limnestidi	111	35.33	9.249	2½	4
8112	38.90	Davantage	112	35.65	9.333	2½	4
8114	39.70	Lakhars	114	36.29	9.500	2½	4
8115	40.10	Lakists	115	36.61	9.583	2½	4
8116	40.50	Dawdler	116	36.93	9.666	2½	4½
8117	40.70	Limniades	117	37.25	9.750	2½	4½
8118	40.90	Lakkers	118	37.56	9.833	2½	4½
8120	42.10	Dawning	120	38.20	10.000	2½	4½
8122	42.90	Lakmoes	122	38.84	10.166	2½	4½
8124	43.70	Daybook	124	39.47	10.333	2½	4½
8125	44.10	Lakonika	125	39.79	10.416	2½	4½
8126	44.50	Lakonisch	126	40.11	10.500	2½	4½
8128	45.30	Lakplant	128	40.75	10.666	2½	4½
8129	45.70	Limning	129	41.07	10.750	2½	4½
8130	46.10	Lakritze	130	41.38	10.833	2½	4½
8132	46.90	Daybreak	132	42.02	11.000	2½	4½
8134	47.70	Lakshmana	134	42.66	11.166	2½	4½
8135	48.10	Lakshmi	135	42.98	11.250	2½	4½
8136	48.50	Lakstof	136	43.29	11.333	2½	4½
8138	49.30	Lakum	138	43.93	11.500	2½	4½
8140	50.10	Daydream	140	44.57	11.666	2½	4½
8142	50.90	Lakwerk	142	45.20	11.833	2½	4½
8144	51.70	Lakzuur	144	45.84	12.000	2½	4½
8145	52.10	Laletania	145	46.16	12.083	2½	4½
8146	52.50	Dayspring	146	46.48	12.166	2½	4½
8148	53.30	Laletanos	148	47.11	12.333	2½	4½
8150	54.10	Lalisio	150	47.75	12.500	2½	5
8152	54.90	Lalisionem	152	48.38	12.666	2½	5
8154	55.70	Lalisionis	154	49.02	12.833	2½	5
8155	56.10	Lallabamus	155	49.34	12.916	2½	5
8156	56.50	Lallabitis	156	49.66	13.000	2½	5
8158	57.30	Daytime	158	50.30	13.166	2½	5
8200	74.10	Dazzle	200	63.65	16.664	2½	6
8225	84.10	Dazzling	225	71.61	18.747	2½	6½

1 1/8″ Pitch

Cast Iron Spur Gears 1⅛″ pitch, 3″ face, under ordinary conditions, will transmit 4.13 H. P. at 100 feet per minute on the pitch line, 6.31 H. P. at 200 feet, 8.23 H. P. at 300 feet, 11.54 H. P. at 500 feet, 15.33 H. P. at 750 feet, 18.52 H. P. at 1,000 feet, 21.50 H. P. at 1,250 feet.

Small pinions running with large gears should be shrouded for full load.

9010	$ 4.10	Deaconess	10	3.64	.953	3	3½
9011	4.30	Deaconship	11	3.99	1.045	3	3½
9012	4.55	Deadish	12	4.35	1.139	3	3½

NOTE. -By our Machine Molding Process we can furnish Gears of any kind or dimension with comparatively small pattern expense.

For Cut Gear lists, see pages 482 to 502.

Cast Tooth Spur Gears

1 1/8" Pitch—Continued

For Horse Power transmitted by Spur Gears, 1⅛" pitch
See page 376

Pattern Number	Price Bored with K. S. or S. S.	CODE WORD	Number of Teeth	Pitch Diameter, in Inches	Pitch Circumference, in Feet	Face, Inches	Standard Length Through Hub, Inches
9013	$ 4.75	Deadman	13	4.70	1.230	3	3½
9014	5.00	Deadness	14	5.06	1.325	3	3½
9015	5.25	Deafen	15	5.41	1.415	3	3½
9016	5.50	Deafening	16	5.77	1.511	3	3½
9017	5.75	Dealbate	17	6.12	1.602	3	3½
9018	6.00	Dealer	18	6.48	1.697	3	3½
9019	6.25	Deanery	19	6.83	1.788	3	3½
9020	6.50	Deanship	20	7.19	1.882	3	3½
9021	6.75	Dearness	21	7.55	1.976	3	3½
*11⅛21	6.75	Lallamus	21	7.55	1.976	3	3½
9022	7.00	Deathify	22	7.90	2.070	3	3½
9023	7.25	Limnobie	23	8.26	2.101	3	3½
9025	7.75	Deathless	25	8.98	2.351	3	3½
9026	8.00	Limnodyte	26	9.33	2.444	3	3½
9028	8.45	Deathlike	28	10.05	2.630	3	3½
9030	8.95	Deathly	30	10.76	2.818	3	3½
9032	9.45	Deathtick	32	11.48	3.004	3	3½
9034	9.90	Deathwatch	34	12.19	3.193	3	3¾
9036	10.40	Deavration	36	12.91	3.378	3	3¾
9038	10.90	Debaclage	38	13.62	3.566	3	3¾
9039	11.15	Limnofila	39	13.98	3.661	3	3¾
9040	11.40	Debaclevr	40	14.34	3.755	3	3¾
9042	11.90	Debagouler	42	15.05	3.942	3	3¾
9043	12.15	Deballage	43	15.41	4.036	3	3¾
9044	12.40	Debander	44	15.77	4.130	3	3¾
9048	13.40	Debanquer	48	17.20	4.503	3	3¾
9049	13.65	Debardage	49	17.56	4.597	3	3¾
9050	13.90	Debarr	50	17.92	4.690	3	3¾
9052	14.40	Debarras	52	18.63	4.877	3	4
9054	14.90	Debarring	54	19.33	5.064	3	4
9055	15.10	Debased	55	19.71	5.157	3	4
9056	15.70	Debasement	56	20.06	5.251	3	4
9058	16.90	Debating	58	20.78	5.438	3	4
9060	18.10	Debel	60	21.50	5.625	3	4
9062	19.30	Debenture	62	22.21	5.813	3	4
9064	20.50	Debiffer	64	22.93	6.001	3	4
9065	21.10	Lallantem	65	23.29	6.095	3	4
9066	21.70	Debilement	66	23.64	6.189	3	4
9068	22.90	Debilitate	68	24.36	6.377	3	4¼
9069	23.50	Debility	69	24.71	6.471	3	4¼
9070	24.10	Debit	70	25.07	6.566	3	4¼
9072	25.30	Debitage	72	25.79	6.754	3	4¼
9074	26.50	Deblaterer	74	26.51	6.943	3	4¼
9075	27.10	Deblayer	75	26.87	7.037	3	4¼
9076	27.70	Deblocage	76	27.22	7.131	3	4¼
9078	28.90	Debloquer	78	27.94	7.319	3	4¼
9080	30.10	Lallantem	80	28.65	7.508	3	4¼
9082	31.30	Lallantium	82	29.37	7.696	3	4¼
9084	32.50	Deboiter	84	30.09	7.885	3	4½
9085	33.10	Debonder	85	30.54	7.979	3	4½

NOTE.—By our Machine Molding Process we can furnish Gears of any kind or dimension with comparatively small pattern expense.

For Cut Gear lists, see pages 482 to 502.

Cast Tooth Spur Gears

1 1/8″ Pitch—Continued

For Horse Power transmitted by Spur Gears, 1⅛″ pitch
See page 376

Pattern Number	Price Bored with K. S. or S. S.	CODE WORD	Number of Teeth	Pitch Diameter, in Inches	Pitch Circumference, in Feet	Face, Inches	Standard Length Through Hub, Inches
9086	$ 33.70	Debonnair	86	30.86	8.073	3	4½
9087	34.30	Debosseler	87	31.16	8.167	3	4½
9088	34.90	Lallaremus	88	31.52	8.261	3	4½
9090	36.10	Debouche	90	32.23	8.450	3	4½
9092	37.30	Lallarent	92	32.95	8.638	3	4½
9094	38.50	Debouillir	94	33.67	8.826	3	4½
9095	39.10	Lallation	95	34.02	8.920	3	4½
9096	39.70	Debourbage	96	34.38	9.014	3	4½
9098	40.90	Debourser	98	35.10	9.202	3	4½
9099	41.50	Limnologia	99	35.46	9.296	3	4½
9100	42.10	Debrider	100	35.82	9.39	3	4½
9101	42.60	Debrocar	101	36.17	9.48	3	4½
9102	43.10	Lallazione	102	36.53	9.57	3	4½
9104	44.10	Debrutir	104	37.25	9.76	3	5
9105	44.60	Limnopeuce	105	37.61	9.855	3	5
9106	45.10	Lallendes	106	37.96	9.95	3	5
9108	46.10	Debtor	108	38.68	10.14	3	5
*11⅛108	46.10	Lalletis	108	38.68	10.14	3	5
9110	47.10	Lallorum	110	39.40	10.32	3	5
9112	48.10	Lalltest	112	40.11	10.51	3	5
9114	49.10	Debusquer	114	40.83	10.70	3	5
9115	49.60	Laloplegie	115	41.19	10.79	3	5
9116	50.10	Lamabock	116	41.55	10.88	3	5
9118	51.10	Lamacao	118	42.26	11.07	3	5
9120	52.10	Debutant	120	42.98	11.25	3	5
9122	53.10	Lamachos	122	43.69	11.44	3	5
9124	54.10	Lamaism	124	44.41	11.63	3	5
9126	55.10	Decacheter	126	45.12	11.81	3	5
9128	56.10	Lamalgue	128	45.84	12.00	3	5
9130	57.10	Lamanage	130	46.55	12.19	3	5
9132	58.10	Decadal	132	47.27	12.37	3	5
9134	59.10	Lamanonie	134	47.98	12.56	3	5½
9136	60.10	Lamantin	136	48.70	12.75	3	5½
9138	61.10	Decadency	138	49.42	12.93	3	5½
9140	62.10	Decagone	140	50.14	13.12	3	5½
9146	65.10	Decaisser	146	52.29	13.69	3	5½
9150	67.10	Decalage	150	53.72	14.06	3	5½
9172	78.10	Decalogue	172	61.60	16.13	3	6
9200	92.10	Decameron	200	71.61	18.75	3	6

1 1/4″ Pitch

Cast Iron Spur Gears 1¼″ pitch, 3½″ face, under ordinary conditions, will transmit 5.35 H. P. at 100 feet per minute on the pitch line, 8.19 H. P. at 200 feet, 10.67 H. P. at 300 feet, 14.96 H. P. at 500 feet, 19.88 H. P. at 750 feet, 24.01 H. P. at 1,000 feet, 27.87 H. P. at 1,250 feet.

Small pinions running with large gears should be shrouded for full load.

10010	$ 5.50	Decamp	10	4.04	1.06	3½	4
10011	5.80	Decampment	11	4.44	1.16	3½	4
10012	6.10	Decapage	12	4.83	1.26	3½	4

NOTE.—By our Machine Molding Process we can furnish Gears of any kind or dimension with comparatively small pattern expense.

For Cut Gear lists, see pages 482 to 502.

Cast Tooth Spur Gears
1 1/4" Pitch—Continued

For Horse Power transmitted by Spur Gears, 1¼" pitch
See page 378

Pattern Number	Price Bored with K. S. or S. S.	CODE WORD	Number of Teeth	Pitch Diameter, in Inches	Pitch Circumference, in Feet	Face, Inches	Standard Length Through Hub, Inches
*11¼12	$ 6.00	Decandrian	12	4.83	1.26	3¼	3¾
10013	6.40	Decapod	13	5.22	1.37	3½	4
*11¼13	6.25	Decapitate	13	5.22	1.37	3¼	3¾
10014	6.70	Decarreler	14	5.62	1.47	3½	4
10015	7.00	Decastyle	15	6.01	1.57	3½	4
*11¼15	6.80	Decastich	15	6.01	1.57	3¼	3¾
10016	7.25	Decedent	16	6.41	1.68	3½	4
*11¼16	7.05	Decayed	16	6.41	1.68	3¼	3¾
10017	7.55	Deceiver	17	6.80	1.78	3½	4
*11¼17	7.35	Deceitful	17	6.80	1.78	3¼	3¾
10018	7.85	Deceiving	18	7.20	1.88	3½	4
10019	8.15	Decelement	19	7.59	1.99	3½	4
10020	8.45	Decency	20	7.99	2.09	3½	4
*11¼20	8.25	Decellis	20	7.99	2.09	3¼	3¾
10021	8.75	Decennial	21	8.39	2.19	3½	4
10022	9.05	Decently	22	8.78	2.29	3½	4
10023	9.35	Deception	23	9.18	2.39	3½	4
10024	9.60	Deceptive	24	9.58	2.50	3½	4
10025	9.90	Decerner	25	9.97	2.61	3½	4
10026	10.15	Decevant	26	10.37	2.72	3½	4
10027	10.45	Decharner	27	10.77	2.82	3½	4
10028	10.70	Decharpir	28	11.16	2.92	3½	4
10029	11.00	Decheveler	29	11.56	3.03	3½	4
10030	11.30	Dechiquete	30	11.96	3.13	3½	4
*11¼30	11.05	Dechiffrer	30	11.96	3.13	3¼	3¾
10031	11.60	Dechirage	31	12.35	3.23	3½	4
10032	11.90	Dechirant	32	12.75	3.34	3½	4¼
10033	12.20	Limnophile	33	13.15	3.44	3½	4¼
10034	12.45	Decidable	34	13.55	3.54	3½	4¼
10035	12.75	Decidement	35	13.95	3.65	3½	4¼
10036	13.05	Decidence	36	14.34	3.75	3½	4¼
10038	13.65	Deciding	38	15.14	3.96	3½	4¼
10040	14.20	Decussi	40	15.93	4.17	3½	4¼
10042	14.80	Decimated	42	16.73	4.38	3½	4¼
10044	15.40	Decintrer	44	17.52	4.59	3½	4¼
10046	16.05	Decipher	46	18.32	4.79	3½	4½
10048	16.65	Decisive	48	19.11	5.00	3½	4½
10050	17.25	Decking	50	19.91	5.21	3½	4½
10051	17.90	Declaimer	51	20.30	5.31	3½	4½
10052	18.55	Declamator	52	20.70	5.42	3½	4½
10054	19.85	Declarant	54	21.50	5.63	3½	4½
10055	20.50	Lamarchia	55	21.90	5.73	3½	4½
10056	21.15	Declarer	56	22.30	5.84	3½	4½
10058	22.45	Lamarckism	58	23.09	6.04	3½	4½
10060	23.75	Declencher	60	23.88	6.25	3½	4½
*11¼60	23.00	Declaredly	60	23.88	6.25	3¼	4½
10061	24.40	Declension	61	24.28	6.35	3½	4¾

NOTE.—By our Machine Molding Process we can furnish Gears of any kind or dimension with comparatively small pattern expense.

For Cut Gear lists, see pages 482 to 502.

Cast Tooth Spur Gears
1 1/4" Pitch—Continued

For Horse Power transmitted by Spur Gears 1¼" pitch
See page 378

Pattern Number	Price Bored with K. S. or S. S.	CODE WORD	Number of Teeth	Pitch Diameter, in Inches	Pitch Circumference, in Feet	Face, Inches	Standard Length Through Hub, Inches
10062	$ 25.05	Declinate	62	24.68	6.46	3½	4¾
10063	25.70	Lamarkee	63	25.07	6.56	3½	4¾
10064	26.35	Declivity	64	25.47	6.67	3½	4¾
10065	27.00	Lamasba	65	25.87	6.77	3½	4¾
10066	27.65	Declouer	66	26.27	6.88	3½	4¾
10068	28.95	Decollate	68	27.07	7.08	3½	4¾
10069	29.60	Lamaserie	69	27.47	7.19	3½	4¾
10070	30.25	Decoct	70	27.86	7.29	3½	4¾
10071	30.90	Lamasool	71	28.26	7.39	3½	4¾
10072	31.55	Decoction	72	28.66	7.50	3½	4¾
10073	32.20	Decombrer	73	29.06	7.60	3½	4¾
10074	32.85	Decompose	74	29.45	7.71	3½	4¾
10075	33.50	Decompter	75	29.85	7.82	3½	4¾
10076	34.15	Deconfire	76	30.25	7.92	3½	4¾
10077	34.80	Lamawolle	77	30.65	8.03	3½	4¾
10078	35.45	Deconvenve	78	31.04	8.13	3½	5
10079	36.10	Lambada	79	31.44	8.23	3½	5
10080	36.75	Decoration	80	31.84	8.34	3½	5
10081	37.40	Lambarde	81	32.24	8.44	3½	5
10082	38.05	Decorator	82	32.63	8.55	3½	5
10083	38.70	Lambareiro	83	33.03	8.65	3½	5
10084	39.35	Decorously	84	33.43	8.76	3½	5
10085	40.00	Decorum	85	33.83	8.87	3½	5
10086	40.65	Decoucher	86	34.23	8.97	3½	5
10088	41.95	Decoudre	88	35.03	9.17	3½	5
10089	42.60	Decouper	89	35.43	9.27	3½	5
10090	43.25	Decouvrir	90	35.82	9.39	3½	5
*11¼90	42.25	Decouverte	90	35.82	9.39	3¼	5
10092	44.35	Decoying	92	36.61	9.59	3½	5½
10094	45.45	Decrasser	94	37.41	9.79	3½	5½
10095	46.00	Lambative	95	37.81	9.90	3½	5½
10096	46.55	Decrease	96	38.20	10.00	3½	5½
10098	47.65	Decree	98	39.00	10.21	3½	5½
10099	48.20	Lambdacism	99	39.40	10.31	3½	5½
10100	48.75	Decrement	100	39.80	10.42	3½	5½
10102	49.85	Decretive	102	40.59	10.62	3½	5½
10104	50.95	Decrial	104	41.39	10.83	3½	5½
10105	51.50	Decroire	105	41.79	10.93	3½	5½
10106	52.00	Lambdanaht	106	42.19	11.04	3½	5½
10108	53.00	Lambedella	108	42.98	11.25	3½	5½
10110	54.00	Lambedura	110	43.78	11.46	3½	5½
10112	55.00	Decrotter	112	44.57	11.67	3½	5½
10114	56.00	Lambello	114	45.37	11.88	3½	5½
10115	56.50	Decrument	115	45.76	11.98	3½	5½
10116	57.00	Decrusage	116	46.16	12.09	3½	5½
10118	58.00	Lambentem	118	46.96	12.29	3½	5½

NOTE.—By our Machine Molding Process we can furnish Gears of any kind or dimension with comparatively small pattern expense.

For Cut Gear Lists, see pages 482 to 502.

Cast Tooth Spur Gears

1 1/4″ Pitch—Continued

For Horse Power transmitted by Spur Gears 1¼″ pitch
See page 378

Pattern Number	Price Bored with K. S. or S. S.	CODE WORD	Number of Teeth	Pitch Diameter, in Inches	Pitch Circumference, in Feet	Face Inches	Standard Length Through Hub Inches
10120	$ 59.00	Decumbent	120	47.75	12.50	3½	5½
10122	60.00	Deculpen	122	48.55	12.71	3½	6
10124	61.00	Decurio	124	49.34	12.92	3½	6
10126	62.00	Decussate	126	50.14	13.12	3½	6
10128	63.00	Dedaigrer	128	50.93	13.33	3½	6
10136	67.00	Dedalera	136	54.12	14.16	3½	6
10144	71.00	Dedicatory	144	57.30	15.00	3½	6
10152	75.00	Dedition	152	60.48	15.83	3½	6
10194	96.00	Dedolent	194	77.18	20.21	3½	7

1 3/8″ Pitch

Cast Iron Spur Gears 1⅜″ pitch, 4″ face, under ordinary conditions will transmit 6.73 H. P. at 100 feet per minute on the pitch line, 10.28 H. P. at 200 feet, 13.42 H. P. at 300 feet, 18.80 H. P. at 500 feet, 24.99 H. P. at 750 feet, 30.18 H. P. at 1,000 feet, 35.04 H. P. at 1,250 feet.

Small pinions running with large gears should be shrouded for full load.

11010	$ 7.10	Deduce	10	4.45	1.17	4	4½
11011	7.45	Deedless	11	4.88	1.28	4	4½
11012	7.80	Deemster	12	5.31	1.39	4	4½
11013	8.15	Deepness	13	5.75	1.50	4	4½
11014	8.55	Deerfold	14	6 18	1.62	4	4½
11015	8.90	Deerhound	15	6.62	1.73	4	4½
11016	9.25	Deerskin	16	7.05	1.85	4	4½
11018	10.00	Defacement	18	7.91	2.07	4	4½
11020	10.70	Defacer	20	8.79	2.30	4	4½
11022	11.35	Defaillant	22	9.66	2.53	4	4½
11025	12.40	Defaire	25	10.97	2.87	4	4½
11028	13.45	Defalquer	28	12.28	3.21	4	4¾
11029	13.85	Defaming	29	12.71	3.33	4	4¾
11030	14.20	Defaveur	30	13.15	3.44	4	4¾
11032	15.60	Defeasible	32	14.03	3.67	4	4¾
11038	19.80	Defeater	38	16.65	4.36	4	4¾
11040	21.00	Defecate	40	17.51	4.59	4	4¾
11042	22.20	Defection	42	18.40	4.82	4	5
11044	23.40	Lambentium	44	19.28	5.05	4	5
11045	24.00	Lamberamus	45	19.71	5.16	4	5
11046	24.60	Defence	46	20.15	5.27	4	5
11048	25.80	Defendable	48	21.02	5.50	4	5
11050	27.00	Lamberando	50	21.90	5.73	4	5
11052	28.20	Defendant	52	22.77	5.96	4	5
11054	29.40	Defensive	54	23.65	6.19	4	5
11055	30.00	Defensory	55	24.08	6 30	4	5¼
11056	30.60	Lambertie	56	24.52	6.42	4	5¼
11057	31.20	Deference	57	24.96	6.54	4	5¼
11058	31.80	Deferment	58	25.40	6.65	4	5¼
11060	33.00	Deferred	60	26 27	6.88	4	5¼
11061	33.60	Defessos	61	26.71	7.00	4	5¼

NOTE.—By our Machine Molding Process we can furnish Gears of any kind or dimension with comparatively small pattern expense.

For Cut Gear Lists, see pages 482 to 502.

Cast Tooth Spur Gears

1 3/8″ Pitch—Continued

For Horse Power transmitted by Spur Gears 1⅜″ pitch
See page 381

Pattern Number	Price Bored with K. S. or S. S.	CODE WORD	Number of Teeth	Pitch Diameter, in Inches	Pitch Circumference, in Feet	Face, Inches	Standard Length Through Hub Inches
11062	$ 34.20	Lamberto	62	27.15	7.11	4	5¼
11064	35.40	Defevtrer	64	28.02	7.34	4	5¼
11065	37.00	Lambiche	65	28.46	7.45	4	5¼
11066	37.60	Lambimmo	66	28.90	7.57	4	5¼
11068	38.80	Defiance	68	29.77	7.80	4	5¼
11070	40.00	Lambimus	70	30.65	8.02	4	5½
11072	41.20	Defiatory	72	31.52	8.25	4	5½
11074	42.40	Deficiently	74	32.39	8.48	4	5½
11075	43.00	Lambirono	75	32.83	8.60	4	5½
11076	43.60	Defile	76	33.27	8.72	4	5½
11078	44.80	Defilement	78	34.15	8.95	4	5½
11080	46.00	Lambiscas	80	35.02	9.18	4	5½
11082	47.20	Definable	82	35.90	9.41	4	5½
11084	48.40	Lambiscunt	84	36.77	9.64	4	6
11085	49.00	Definative	85	37.21	9.75	4	6
11086	49.60	Lambissent	86	37.65	9 87	4	6
11088	50.80	Definite	88	38.52	10 10	4	6
11090	51.80	Lambissimo	90	39.40	10.33	4	6
11092	52.80	Montantada	92	40.27	10.56	4	6
11094	53.80	Deflect	94	41.15	10.78	4	6
11095	54.30	Lambita	95	41.59	10.90	4	6
11096	54.80	Montanuela	96	42 02	11 01	4	6
11098	55.80	Deflecting	98	42.90	11.24	4	6
11100	56.80	Lambitivo	100	43.77	11.46	4	6
11102	57.80	Lambitotum	102	44.65	11.69	4	6
11104	58.80	Deflegner	104	45.52	11.92	4	6
11105	59.30	Lambituram	105	45.96	12.04	4	6
11106	59.80	Defleurir	106	46.40	12.15	4	6
11108	60.80	Lambituri	108	47.28	12 38	4	6
11110	61 80	Deflexion	110	48.15	12.60	4	6
11112	62.80	Deflorate	112	49.03	12.83	4	6¼
11113	63 30	Deflower	113	49.46	12.94	4	6½
11130	71.80	Deflowing	130	56 90	14.90	4	6¾
11140	76.80	Defluous	140	61.28	16.04	4	7
11148	80 80	Defluvio	148	64.78	16.96	4	7
11156	84.80	Defoncer	156	68.28	17.88	4	7
11176	94.80	Deform	176	77.03	20.17	4	7½
11190	101.80	Deformity	190	85.15	22.29	4	7½

1 1/2″ Pitch

Cast Iron Spur Gears 1½″ pitch, 4½″ face, under ordinary conditions will transmit 8.26 H. P. at 100 feet per minute on the pitch line, 12.60 H. P. at 200 feet, 16.47 H. P. at 300 feet, 23.08 H. P. at 500 feet, 30.66 H. P. at 750 feet, 37.04 H. P. at 1,000 feet, 43.00 H. P. at 1,250 feet.

Small pinions running with large gears should be shrouded for full load.

12010	$ 8.80	Defrayer	10	4.85	1.27	4½	5
12011	9.25	Defricheur	11	5.32	1.39	4½	5

NOTE.—By our Machine Molding Process we can furnish Gears of any kind or dimension with comparatively small pattern expense.

For Cut Gear Lists, see pages 482 to 502.

Cast Tooth Spur Gears

1 1/2" Pitch—Continued

For Horse Power transmitted by Spur Gears 1½" pitch
See page 382

Pattern Number	Price Bored with K. S. or S. S.	CODE WORD	Number of Teeth	Pitch Diameter, in Inches	Pitch Circumference, in Feet	Face, Inches	Standard Length Through Hub, Inches
12012	$ 9.70	Defroque	12	5.80	1.52	4½	5
*11½13	10.00	Deftly	13	6.27	1.64	4	4½
12013	10.15	Defunct	13	6.27	1.64	4½	5
12014	10.60	Defying	14	6.74	1.77	4½	5
*11½15	10.75	Deganeur	15	7.21	1.89	4	4½
12015	11.00	Degauchir	15	7.21	1.89	4½	5
12016	11.45	Degenerate	16	7.69	2.02	4½	5
12017	11.90	Degluer	17	8.16	2.14	4½	5
12018	12.35	Degobillis	18	8.64	2.26	4½	5
12019	12.80	Degollar	19	9.11	2.39	4½	5
*11½20	13.00	Degommage	20	9.59	2.51	4	4½
12020	13.25	Degommer	20	9.59	2.51	4½	5
12021	13.70	Degout	21	10.06	2.63	4½	5
12022	14.15	Degoutant	22	10.54	2.76	4½	5
12023	14.60	Degradant	23	11.02	2.88	4½	5
12024	15.05	Degradaron	24	11.49	3.01	4½	5
12025	15.50	Degrade.	25	11.97	3.13	4½	5
12026	15.90	Degrading	26	12.44	3.26	4½	5¼
12027	16.30	Degravoyer	27	12.92	3.38	4½	5¼
12028	16.75	Degree	28	13.40	3.51	4½	5¼
12029	17.20	Degriser	29	13.87	3.63	4½	5¼
12030	17.60	Degrossage	30	14.35	3.76	4½	5¼
12031	18.30	Deguerpir	31	14.82	3.88	4½	5¼
12032	19.00	Dehiscent	32	15.30	4.00	4½	5¼
12033	19.70	Dehorter	33	15.78	4.13	4½	5¼
12034	20.40	Deifical	34	16.26	4.26	4½	5¼
12035	21.10	Lambituros	35	16.73	4.38	4½	5¼
12036	21.80	Deign	36	17.21	4.50	4½	5¼
12037	22.50	Deiparous	37	17.69	4.63	4½	5¼
12038	23.20	Deist	38	18.16	4.75	4½	5½
12039	23.90	Deistical	39	18.64	4.88	4½	5½
12040	24.60	Dejected	40	19.12	5.01	4½	5½
12041	25.30	Dejeuner	41	19.60	5.13	4½	5½
12042	26.00	Delabrer	42	20.07	5.26	4½	5½
12043	26.70	Delantera	43	20.55	5.38	4½	5½
12044	27.40	Delapsion	44	21.03	5.51	4½	5½
12045	28.10	Delarder	45	21.50	5.63	4½	5½
12046	28.80	Delasser	46	21.98	5.76	4½	5½
12047	29.50	Delate	47	22.46	5.88	4½	5½
12048	30.20	Delayant	48	22.93	6.01	4½	5½
12049	30.90	Lambivamo	49	23.41	6.13	4½	5½
*11½50	30.00	Deleatur	50	23.89	6.25	4	5
12050	31.60	Delayement	50	23.89	6.25	4½	5½
12051	32.30	Delectable	51	24.37	6.37	4½	5¾
12052	33.00	Delegated	52	24.84	6.50	4½	5¾
12053	33.70	Delestage	53	25.33	6.62	4½	5¾

NOTE.—By our Machine Molding Process we can furnish Gears of any kind or dimension with comparatively small pattern expense.

For Cut Gear Lists, see pages 482 to 502.

Cast Tooth Spur Gears

1 1/2" Pitch—Continued

For Horse Power transmitted by Spur Gears 1½" pitch
See page 382

Pattern Number	Price Bored with K. S. or S. S.	CODE WORD	Number of Teeth	Pitch Diameter, in Inches	Pitch Circumference, in Feet	Face, Inches	Standard Length Through Hub, Inches
12054	$ 34.40	Delectory	54	25.80	6.75	4½	5¾
12055	35.10	Deletrear	55	26.27	6.87	4½	5¾
12056	35.80	Delft	56	26.75	7.00	4½	5¾
12057	36.50	Delfinio	57	27.23	7.12	4½	5¾
12058	37.20	Delgado	58	27.71	7.25	4½	5¾
12059	37.90	Delibation	59	28.18	7.38	4½	5¾
*11½60	37.00	Deliberate	60	28.66	7.50	4	5¼
12060	38.60	Delicacy	60	28.66	7.50	4½	5¾
12061	39.20	Lambivate	61	29.14	7.62	4½	5¾
12062	39.80	Delicate	62	29.61	7.75	4½	5¾
12063	40.40	Delicious	63	30.09	7.87	4½	6
12064	41.00	Delicoter	64	30.57	8.00	4½	6
12065	41.60	Delight	65	31.05	8.12	4½	6
12066	42.20	Delightful	66	31.52	8.25	4½	6
12067	42.80	Montatigo	67	31.99	8.37	4½	6
12068	43.40	Delighting	68	32.48	8.50	4½	6
12069	44.00	Delila	69	32.95	8.62	4½	6
12070	44.60	Delineate	70	33.43	8.75	4½	6
12071	45.20	Delinquent	71	33.91	8.87	4½	6
12072	45.80	Deliquiate	72	34.39	9.00	4½	6
12073	46.40	Lambling	73	34.87	9.12	4½	6
12074	47.00	Lambrani	74	35.34	9.25	4½	6
12075	47.60	Delirancy	75	35.82	9.37	4½	6
12076	48.20	Delirious	76	36.30	9.50	4½	6½
12077	48.80	Deliverant	77	36.77	9.62	4½	6½
12078	49.40	Montecitos	78	37.26	9.75	4½	6½
12079	50.00	Lambrequin	79	37.73	9.87	4½	6½
12080	50.60	Deliverer	80	38.21	10.00	4½	6½
12081	51.20	Lambrica	81	38.68	10.12	4½	6½
12082	51.80	Delogement	82	39.16	10.25	4½	6½
12083	52.40	Montiamo	83	39.64	10.37	4½	6½
12084	53.00	Deloger	84	40.12	10.50	4½	6½
12085	53.60	Deloyaute	85	40.59	10.62	4½	6½
12086	54.20	Delphian	86	41.07	10.75	4½	6½
12087	54.80	Monticule	87	41.55	10.87	4½	6½
12088	55.40	Lambrisse	88	42.02	11.00	4½	6½
12089	56.00	Lambruche	89	42.50	11.12	4½	6½
12090	56.60	Delphic	90	42.98	11.25	4½	6½
12091	57.20	Lambrusca	91	43.46	11.37	4½	6½
12092	57.80	Lambskin	92	43.94	11.50	4½	6½
12093	58.40	Lambspring	93	44.42	11.62	4½	6½
12094	59.00	Deluder	94	44.89	11.75	4½	6½
12095	59.60	Deludible	95	45.43	11.87	4½	6½
12096	60.20	Deluge	96	45.84	12.00	4½	6½
12097	60.80	Lambton	97	46.32	12.12	4½	6½
12098	61.40	Delusion	98	46.80	12.25	4½	6½
12099	62.00	Lambisco	99	47.28	12.37	4½	6½
12100	62.60	Delustrer	100	47.75	12.50	4½	6½

NOTE.—By our Machine Molding Process we can furnish Gears of any kind or dimension with comparatively small pattern expense.

For Cut Gear Lists, see pages 482 to 502.

Cast Tooth Spur Gears

1 1/2″ Pitch—Continued

For Horse Power transmitted by Spur Gears, 1½″ pitch
See page 382

Pattern Number	Price Bored with K. S. or S. S.	CODE WORD	Number of Teeth	Pitch Diameter, in Inches	Pitch Circumference, in Feet	Face, Inches	Standard Length Through Hub, Inches
12101	$63.20	Delver	101	48.23	12.62	4½	7
12102	63.80	Demagogue	102	48.71	12.75	4½	7
12103	64.40	Demain	103	49.18	12.87	4½	7
12104	65.00	Moqueado	104	49.66	13.00	4½	7
12105	65.60	Demandant	105	50.14	13.12	4½	7
12106	66.20	Demasquer	106	50.62	13.25	4½	7
12109	68.00	Dematage	109	52.05	13.62	4½	7
12110	68.60	Demater	110	52.53	13.75	4½	7
12111	69.20	Moquifero	111	53.00	13.87	4½	7
12112	69.80	Demeaning	112	53.47	14.00	4½	7
12113	70.40	Demeanour	113	53.96	14.12	4½	7
12114	71.00	Demediar	114	54.44	14.25	4½	7
12117	72.80	Limnophore	117	55.87	14.62	4½	7
12120	74.60	Demenage	120	57.30	15.00	4½	7
12124	77.00	Demency	124	59.21	15.50	4½	7
12125	77.60	Demented	125	59.69	15.62	4½	7
12127	78.80	Limnoria	127	60.64	15.87	4½	7
12130	80.60	Demerit	130	62.08	16.25	4½	7½
12147	93.35	Morabtano	147	70.19	18.37	4½	7½
12150	95.60	Demeubler	150	71.63	18.75	4½	7½
12156	100.10	Demeurant	156	74.49	19.50	4½	8
12166	107.60	Demise	166	79.26	20.75	4½	8
12196	130.10	Morailles	196	93.58	24.50	4½	9
12204	136.10	Demisable	204	97.40	25.50	4½	9
12260	260.00	Limnornis	260	124.15	32.50	4½	9

1 5/8″ Pitch

Cast Iron Spur Gears 1⅝″ pitch, 5″ face, under ordinary conditions, will transmit 9.95 H. P. at 100 feet per minute on the pitch line, 15.19 H. P. at 200 feet, 19.82 H. P. at 300 feet, 27.77 H. P. at 500 feet, 36.91 H. P. at 750 feet, 44.58 H. P. at 1,000 feet, 51.75 H. P. at 1,250 feet.

Small pinion running with large gears should be shrouded for full load.

13010	$10.90	Demotique	10	5.26	1.38	5	5½
13012	12.00	Demster	12	6.28	1.64	5	5½
13013	12.60	Demulcent	13	6.79	1.78	5	5½
13015	13.65	Limoada	15	7.82	2.05	5	5½
13016	14.15	Demurely	16	8.33	2.19	5	5½
13020	16.30	Demureness	20	10.39	2.72	5	5½
13022	17.80	Moraleggio	22	11.42	2.99	5	5½
13023	18.55	Dentritic	23	11.93	3.12	5	5½
13028	22.30	Denegation	28	14.51	3.80	5	5¾
13034	26.80	Deniable	34	17.61	4.61	5	6
13035	27.55	Lambucada	35	18.13	4.75	5	6
13036	28.30	Denial	36	18.64	4.88	5	6
13038	29.80	Denicheur	38	19.68	5.15	5	6
13040	31.30	Lagerwall	40	20.71	5.42	5	6
13041	32.05	Denigrate	41	21.23	5.56	5	6
13042	32.80	Lagerwand	42	21.75	5.69	5	6
13044	34.30	Denization	44	22.78	5.96	5	6

NOTE.—By our Machine Molding Process we can furnish Gears of any kind or dimension with comparatively small pattern expense.

For Cut Gear lists, see pages 482 to 502.

Cast Tooth Spur Gears

1 5/8″ Pitch—Continued

For Horse Power transmitted by Spur Gears 1⅝″ pitch
See page 385

Pattern Number	Price Bored with K. S. or S. S.	CODE WORD	Number of Teeth	Pitch Diameter, in Inches	Pitch Circumference, in Feet	Face, Inches	Standard Length Through Hub, Inches
13045	$35.05	Lagerwein	45	23.30	6.10	5	6
13046	35.80	Lagerweise	46	23.81	6.24	5	6
13048	37.30	Denominate	48	24.85	6.51	5	6¼
13050	38.80	Lagerzeit	50	25.88	6.78	5	6¼
13052	40.30	Denostador	52	26.91	7.05	5	6¼
13054	41.50	Lagerzone	54	27.94	7.32	5	6¼
13056	42.70	Denotable	56	28.98	7.59	5	6¼
13057	43.30	Denotative	57	29.50	7.72	5	6¼
13058	43.90	Denoter	58	30.01	7.86	5	6½
13060	45.10	Lagerzug	60	31.05	8.13	5	6½
13062	46.30	Lagerzuges	62	32.09	8.40	5	6½
13064	47.50	Denovement	64	33.12	8.67	5	6½
13066	48.70	Denouncer	66	34.15	8.95	5	6½
13067	49.30	Denouncing	67	34.67	9.08	5	6½
13068	49.90	Laggard	68	35.19	9.22	5	6½
13070	51.10	Laggingly	70	36.22	9.49	5	7
13072	52.30	Laghettino	72	37.26	9.76	5	7
13074	53.50	Lagidion	74	38.29	10.03	5	7
13075	54.10	Lagima	75	38.80	10.17	5	7
13076	54.70	Lagmanner	76	39.34	10.31	5	7
13078	55.90	Lagnammo	78	40.37	10.58	5	7
13080	57.10	Denseness	80	41.39	10.85	5	7
13082	58.30	Lagnando	82	42.42	11.12	5	7
13084	59.50	Lagnandosi	84	43.46	11.39	5	7
13086	60.70	Lagnarono	86	44.49	11 67	5	7
13088	61.90	Lagnasse	88	45.53	11.94	5	7
13090	63.10	Lagnassimo	90	46.56	12.21	5	7½
13092	64.30	Lagnavamo	92	47.60	12.48	5	7½
13094	65.50	Lagnavate	94	48.63	12.75	5	7½
13117	90 60	Density	117	60.53	15.85	5	8

1 3/4″ Pitch

Cast Iron Spur Gears 1¾″ pitch, 5½″ face, under ordinary conditions, will transmit 11.78 H. P. at 100 feet per minute on the pitch line, 17.99 H. P. at 200 feet, 23.48 H. P. at 300 feet, 32.91 H. P. at 500 feet, 43.73 H. P. at 750 feet, 52.82 H. P at 1,000 feet, 61.32 H. P. at 1,250 feet.

Small pinions running with large gears should be shrouded for full load.

14010	$12.30	Dentadura	10	5.66	1.48	5½	6
14011	12.90	Dental	11	6.21	1.62	5½	6
14012	13.50	Dentated	12	6.76	1.77	5½	6
14013	14.10	Dentecillo	13	7.31	1.91	5½	6
14014	14.70	Dentelure	14	7.86	2.06	5½	6
14015	15.30	Denticle	15	8.42	2.20	5½	6
14016	15.90	Dentiloquy	16	8.97	2.35	5½	6
14017	16.55	Dentistry	17	9.52	2.49	5½	6
14018	17.20	Dentocher	18	10.08	2.64	5½	6
14019	17.80	Lagneranno	19	10.63	2.78	5½	6

NOTE.—By our Machine Molding Process we can furnish Gears of any kind or dimension with comparatively small pattern expense.

For Cut Gear Lists, see pages 482 to 502.

Cast Tooth Spur Gears

1 3/4" Pitch—Continued

For Horse Power transmitted by Spur Gears 1¾" pitch
See page 386

Pattern Number	Price Bored with K. S. or S. S.	CODE WORD	Number of Teeth	Pitch Diameter, in Inches	Pitch Circumference, in Feet	Face, Inches	Standard Length Through Hub, Inches
14020	$18.40	Denudate	20	11.19	2.93	5½	6
14021	19.00	Denude	21	11.74	3.07	5½	6
14022	19.60	Denunciate	22	12.30	3.22	5½	6
14023	20.25	Deodand	23	12.85	3.36	5½	6¼
14024	20.90	Deodorise	24	13.41	3.51	5½	6¼
14025	21.50	Deonerate	25	13.96	3.65	5½	6¼
14026	22.15	Deoppilate	26	14.52	3.80	5½	6¼
14027	22.80	Deoxidate	27	15.07	3.94	5½	6¼
14028	23.45	Departing	28	15.63	4.09	5½	6¼
14029	24.05	Department	29	16.19	4.23	5½	6¼
14030	24.65	Depascent	30	16.74	4.38	5½	6¼
14031	25.30	Lagnerebbe	31	17.29	4.52	5½	6¼
14032	25.95	Morangal	32	17.85	4.67	5½	6½
14033	26.65	Depayser	33	18.41	4.81	5½	6½
14034	27.30	Lagneremo	34	18.97	4.96	5½	6½
14035	27.95	Lagneresti	35	19.52	5.10	5½	6½
14036	28.60	Depecement	36	20.08	5.25	5½	6½
14037	29.25	Lagnevole	37	20.64	5.40	5½	6½
14038	29.90	Lagniate	38	21.19	5.54	5½	6½
14039	30.55	Depeche	39	21.75	5.69	5½	6½
14040	31.15	Depectible	40	22.30	5.84	5½	6½
14041	31.80	Lagocefalo	41	22.86	5.98	5½	6½
14042	32.45	Depeindre	42	23.42	6.13	5½	6½
14043	33.10	Dependency	43	23.97	6.27	5½	6½
14044	33.75	Depender	44	24.53	6.42	5½	6¾
14045	34.40	Lagochile	45	25.09	6.56	5½	6¾
14046	35.05	Deperdit	46	25.64	6.71	5½	6¾
14047	35.70	Depetrer	47	26.20	6.85	5½	6¾
14048	36.40	Depeupler	48	26.76	7.00	5½	6¾
14049	37.10	Lagoenam	49	27.31	7.15	5½	6¾
14050	37.75	Depict	50	27.87	7.30	5½	6¾
14051	38.45	Lagoenarum	51	28.42	7.44	5½	6¾
14052	39.10	Depiction	52	28.98	7.59	5½	6¾
14053	39.80	Lagofono	53	29.54	7.73	5½	6¾
14054	40.45	Depilage	54	30.10	7.88	5½	7
14055	41.10	Depilatory	55	30.65	8.02	5½	7
14056	41.75	Deplaisant	56	31.21	8.17	5½	7
14057	42.45	Lagoftalmo	57	31.77	8.31	5½	7
14058	43.15	Lagomachia	58	32.32	8.46	5½	7
14059	43.85	Deplantage	59	32.88	8.61	5½	7
14060	44.55	Lagomio	60	33.44	8.76	5½	7
14061	45.25	Lagomys	61	34.00	8.90	5½	7
14062	45.95	Lagoncello	62	34.55	9.05	5½	7½
14063	46.65	Lagone	63	35.11	9.20	5½	7½
14064	47.35	Depledge	64	35.66	9.34	5½	7½
14065	48.05	Moratoria	65	36.22	9.48	5½	7½

NOTE.—By our Machine Molding Process we can furnish Gears of any kind or dimension with comparatively small pattern expense.

For Cut Gear Lists, see pages 482 to 502

Cast Tooth Spur Gears
1 3/4" Pitch—Continued

For Horse Power transmitted by Spur Gears 1¾" pitch
See page 386

Pattern Number	Price Bored with K. S. or S. S.	CODE WORD	Number of Teeth	Pitch Diameter in Inches	Pitch Circumference, in Feet	Face, Inches	Standard Length Through Hub, Inches
14066	$ 48.80	Depletion	66	36.78	9.63	5½	7½
14067	49.55	Lagonite	67	37.33	9.77	5½	7½
14068	50.30	Depletory	68	37.89	9.92	5½	7½
14069	51.05	Lagoon	69	38.45	10.07	5½	7½
14070	51.80	Morbidato	70	39.01	10.22	5½	7½
14071	52.50	Deploring	71	39.56	10.36	5½	7½
14072	53.20	Morbillous	72	40.12	10.51	5½	7½
14073	53.95	Lagopede	73	40.67	10.65	5½	7½
14074	54.70	Deplume	74	41.23	10.80	5½	7½
14075	55.45	Depolarize	75	41.79	10.94	5½	7½
14076	56.20	Deponent	76	42.35	11.09	5½	7½
14077	56.95	Depoudrer	77	42.91	11.23	5½	7½
14078	57.80	Lagopodem	78	43.46	11.38	5½	7½
14079	58.65	Lagopodis	79	44.02	11.53	5½	7½
14080	59.50	Depourvoir	80	44.57	11.68	5½	7½
14081	60.35	Lagoseride	81	45.12	11.82	5½	7½
14082	61.25	Lagostim	82	45.68	11.97	5½	7½
14083	62.15	Lagostome	83	46.24	12.11	5½	7½
14084	63.05	Morbonia	84	46.80	12.26	5½	7½
14085	63.95	Lagostomus	85	47.36	12 40	5½	7½
14086	64.85	Depopulate	86	47.92	12.55	5½	7½
14087	65.75	Lagoteaba	87	48.47	12.69	5½	7½
14088	66.65	Deport	88	49.03	12.84	5½	8
14089	67.60	Lagoteamos	89	49.58	12.99	5½	8
14090	68.55	Lagoteando	90	50.14	13.14	5½	8
14091	69.50	Morchioso	91	50.69	13.29	5½	8
14093	71.40	Morcillas	93	51.81	13.58	5½	8
14094	72.35	Mordebam	94	52.37	13.72	5½	8
14095	73.30	Limocincto	95	52.93	13.86	5½	8
14100	78.20	Deporting	100	55.71	14.59	5½	8
14104	82.20	Depose	104	57.94	15.17	5½	8
14107	85.40	Mordechin	107	59.61	15.60	5½	8½
14110	88.70	Depository	110	61.28	16.04	5½	8½
14112	91.10	Depraved	112	62.40	16.33	5½	8½
14116	95.70	Depravity	116	64.67	16.91	5½	8½
14120	100.30	Mordevate	120	66.84	17.50	5½	8½
14122	102.90	Deprecated	122	67.96	17.79	5½	8½
14124	105.50	Deprehend	124	69.08	18.08	5½	8½
14130	113.25	Depress	130	72.42	18.95	5½	9
14140	127.50	Lagotearon	140	77.99	20.41	5½	9
14142	130.00	Deprisant	142	79.11	20.70	5½	9
14150	140.00	Deprivet	150	83.56	21.88	5½	9

NOTE.—By our Machine Molding Process we can furnish Gears of any kind or dimension with comparatively small pattern expense.

For Cut Gear Lists, see pages 482 to 502.

Cast Tooth Spur Gears

1 7/8" Pitch

Cast Iron Spur Gears 1 7/8" pitch, 5½" face, under ordinary conditions, will transmit 12.62 H. P. at 100 feet per minute on the pitch line, 19.28 H. P. at 200 feet, 25.16 H. P. at 300 feet, 35.24 H. P. at 500 feet, 46.85 H. P. at 750 feet, 56.59 H. P. at 1,000 feet, 65.69 H. P. at 1,250 feet.

Small pinions running with large gears should be shrouded for full load.

Pattern Number	Price Bored with K. S. or S. S.	CODE WORD	Number of Teeth	Pitch Diameter, in Inches	Pitch Circumference, in Feet	Face, Inches	Standard Length Through Hub, Inches
15011	$ 14.85	Depulsion	11	6.55	1.72	5½	6
15014	17.00	Depurate	14	8.43	2.20	5½	6
15017	19.15	Deputation	17	10.20	2.67	5½	6
15020	21.30	Deputy	20	11.98	3.14	5½	6
15024	24.20	Deracinate	24	14.36	3.76	5½	6¼
15025	24.90	Derange	25	14.96	3.92	5½	6¼
15027	26.40	Deranging	27	16.15	4.23	5½	6¼
15030	28.55	Deray	30	17.94	4.70	5½	6¼
15032	30.05	Lagoteases	32	19.13	5.01	5½	6¼
15034	31.55	Derechef	34	20.32	5.32	5½	6½
15036	33.00	Lagoteria	36	21.51	5.63	5½	6½
15038	34.50	Lagotero	38	22.71	5.94	5½	6½
15040	36.00	Derechero	40	23.90	6.26	5½	6½
15042	37.50	Lagothamne	42	25.09	6.57	5½	6½
15044	39.00	Lagothrix	44	26.28	6.88	5½	6½
15046	40.55	Lagotriche	46	27.47	7.19	5½	6½
15048	42.10	Lagotrofio	48	28.66	7.50	5½	6½
15050	43.60	Deregler	50	29.86	7.82	5½	6¾
15052	45.15	Lagozinho	52	31.05	8.13	5½	6¾
15054	46.70	Lagrimable	54	32.24	8.44	5½	6¾
15055	47.45	Derider	55	32.84	8.60	5½	7
15056	49.00	Lagrimal	56	33.43	8.75	5½	7
15058	49.80	Derisive	58	34.63	9.06	5½	7
15060	51.50	Derition	60	35.82	9.38	5½	7
15062	53.10	Derivative	62	37.02	9.69	5½	7½
15064	55.00	Lagrimales	64	38.21	10.00	5½	7½
15066	56.90	Lagrimammo	66	39.40	10.31	5½	7½
15068	58.80	Lagrimando	68	40.60	10.62	5½	7½
15070	60.70	Dermal	70	41.79	10.94	5½	7½
15072	62.60	Lagrimato	72	42.98	11.25	5½	7½
15074	64.50	Lagrimava	74	44.18	11.56	5½	7½
15076	66.40	Lagrimerai	76	45.37	11.87	5½	8
15078	68.30	Lagrimonas	78	46.56	12.18	5½	8
15080	70.20	Lagrimosa	80	47.76	12.50	5½	8
15082	72.00	Dermotomy	82	48.95	12.81	5½	8
15086	75.80	Derogate	86	51.34	13.43	5½	8
15094	83.75	Derogatory	94	56.11	14.69	5½	8
15098	88.00	Derogeant	98	58.50	15.32	5½	8

2" Pitch

Cast Iron Spur Gears 2" pitch, 6" face, under ordinary conditions, will transmit 14.69 H. P. at 100 feet per minute on the pitch line, 22.44 H. P. at 200 feet, 29.28 H. P. at 300 feet, 41.03 H. P. at 500 feet, 54.52 H. P. at 750 feet, 65.84 H. P. at 1,000 feet, 76.45 H. P. at 1,250 feet.

Small pinions running with large gears should be shrouded for full load.

16010	$16.10	Deronchar	10	6.47	1.70	6	6½
16011	16.95	Derouter	11	7.10	1.86	6	6½

NOTE.—By our Machine Molding Process we can furnish Gears of any kind or dimension with comparatively small pattern expense.

For Cut Gear Lists, see pages 482 to 502.

Cast Tooth Spur Gears

2″ Pitch—Continued

For Horse Power transmitted by Spur Gears 2″ pitch
See page 389

Pattern Number	Price Bored with K. S. or S. S.	CODE WORD	Number of Teeth	Pitch Diameter, in Inches	Pitch Circumference, in Feet	Face, Inches	Standard Length Through Hub, Inches
16012	$17.80	Derribado	12	7.73	2.02	6	6½
16013	18.65	Derrubiar	13	8.36	2.19	6	6½
16014	19.45	Dervish	14	8.99	2.35	6	6½
16015	20.30	Desabonner	15	9.62	2.52	6	6½
16016	21.15	Desabor	16	10.25	2.69	6	6½
16017	22.05	Desabrido	17	10.88	2.85	6	6½
16018	22.95	Desacotar	18	11.52	3.02	6	6½
16019	23.85	Desadornar	19	12.15	3.18	6	6¾
16020	24.75	Desafuero	20	12.78	3.35	6	6¾
16021	25.65	Desagrado	21	13.42	3.51	6	6¾
16022	26.50	Desalentar	22	14.05	3.68	6	6¾
16023	27.35	Desamador	23	14.69	3.84	6	6¾
16024	28.25	Desbabar	24	15.32	4.01	6	6¾
16025	29.10	Desbocado	25	15.96	4.18	6	6¾
16026	30.00	Descalzado	26	16.59	4.35	6	6¾
16027	30.85	Descasque	27	17.23	4.51	6	6¾
16028	31.70	Descant	28	17.86	4.67	6	6¾
16029	32.55	Lagrimosos	29	18.50	4.84	6	6¾
16030	33.40	Descanting	30	19.13	5.01	6	7
16031	34.30	Desceller	31	19.77	5.17	6	7
16032	35.15	Descend	32	20.40	5.34	6	7
16033	36.00	Lagrimuzza	33	21.04	5.51	6	7
16034	36.90	Descendant	34	21.68	5.67	6	7
16035	37.80	Mordicus	35	22.31	5.84	6	7
16036	38.65	Descension	36	22.95	6.01	6	7
16037	39.50	Mordiscare	37	23.58	6.17	6	7¼
16038	40.40	Descosido	38	24.22	6.34	6	7¼
16039	41.30	Lagunaire	39	24.85	6.51	6	7¼
16040	42.20	Descretar	40	25.49	6.67	6	7¼
16041	43.10	Lagunajo	41	26.13	6.84	6	7¼
16042	44.00	Describent	42	26.76	7.01	6	7¼
16043	44.90	Laguncule	43	27.40	7.17	6	7¼
16044	45.80	Describing	44	28.04	7.34	6	7¼
16045	46.65	Descried	45	28.67	7.51	6	7¼
16046	47.55	Descry	46	29.31	7.67	6	7¼
16047	48.40	Desecrate	47	29.94	7.84	6	7¼
16048	49.25	Desempeser	48	30.58	8.01	6	7½
16049	50.15	Desemplir	49	31.22	8.17	6	7½
16050	51.05	Desenfiler	50	31.85	8.34	6	7½
16051	51.95	Desertion	51	32.49	8.51	6	7½
16052	52.90	Deserturus	52	33.12	8.67	6	7½
16053	53.85	Morditrice	53	33.76	8.84	6	7½
16054	54.80	Morentum	54	34.39	9.00	6	7½
16055	55.70	Lagunculis	55	35.03	9.17	6	7½
16056	56.60	Deserved	56	35.67	9.34	6	7½
16057	57.55	Desherence	57	36.30	9.51	6	8
16058	58.50	Desiccate	58	36.94	9.67	6	8
16059	59.45	Desiderate	59	37.58	9.84	6	8

NOTE.—By our Machine Molding Process we can furnish Gears of any kind or dimension with comparatively small pattern expense.

For Cut Gear Lists, see pages 482 to 502

Cast Tooth Spur Gears

2″ Pitch—Continued

For Horse Power transmitted by Spur Gears, 2″ pitch
See page 389

Pattern Number	Price Bored with K. S. or S. S.	CODE WORD	Number of Teeth	Pitch Diameter, in Inches	Pitch Circumference, in Feet	Face, Inches	Standard Length Through Hub, Inches
16060	$60.40	Desidiose	60	38.21	10.01	6	8
16061	61.35	Designated	61	38.85	10.17	6	8
16062	62.30	Designed	62	39.49	10.34	6	8
16063	63.25	Designless	63	40.12	10.50	6	8
16064	64.20	Desipient	64	40.76	10.67	6	8
16065	65.20	Morigerate	65	41.40	10.84	6	8
16066	66.20	Desirable	66	42.03	11.00	6	8
16067	67.20	Desistance	67	42.67	11.17	6	8
16068	68.20	Desistive	68	43.29	11.34	6	8
16069	69.20	Moriuntur	69	43.94	11.50	6	8
16070	70.20	Desolate	70	44.58	11.67	6	8
16071	71.20	Mornamos	71	45.20	11.84	6	8
16072	72.20	Laguneral	72	45.84	12.01	6	8
16073	73.25	Lagunero	73	46.48	12.17	6	8
16074	74.30	Desolating	74	47.12	12.34	6	8
16075	75.30	Desolatory	75	47.76	12.51	6	8
16076	76.30	Desopilant	76	48.40	12.68	6	8½
16077	77.40	Lagunes	77	49.04	12.84	6	8½
16078	78.50	Desormais	78	49.67	13.01	6	8½
16079	79.60	Lagunoa	79	50.31	13.18	6	8½
16080	80.75	Despair	80	50.94	13.35	6	8½
16081	81.90	Lagunosos	81	51.58	13.51	6	8½
16084	85.25	Despairing	84	53.49	14.02	6	8½
16085	86.35	Despection	85	54.13	14.18	6	8½
16086	87.55	Desperate	86	54.76	14.35	6	8½
16088	89.90	Despicable	88	56.03	14.69	6	8½
16090	92.20	Despiser	90	57.31	15.02	6	8½
16092	94.55	Despite	92	58.58	15.35	6	8½
16094	96.95	Despoil	94	59.85	15.67	6	8½
16095	98.20	Despoiling	95	60.49	15.83	6	9
16096	99.40	Despolvar	96	61.13	16 00	6	9
16098	101.90	Despond	98	62.40	16.34	6	9
16100	104.50	Despondent	100	63.67	16.67	6	9
16101	105.80	Desponsate	101	64.31	16.84	6	9
16102	107.10	Despot	102	64.95	17.00	6	9
16103	108.40	Despotical	103	65.58	17.17	6	9
16104	109.70	Despotism	104	66.22	17.34	6	9
16108	115.15	Despumate	108	68.76	18.00	6	9
16109	116.55	Desraspar	109	69.40	18.16	6	9
16110	117.95	Dessale	110	70.04	18.33	6	9
16112	120.80	Dessert	112	71.31	18.67	6	9
16113	122.20	Morniado	113	71.94	18.84	6	9
16114	123.60	Moroncho	114	72.58	19.00	6	9½
16116	126.70	Dessouler	116	73.86	19.33	6	9½
16117	128.20	Destechar	117	74.49	19.50	6	9½
16120	132.90	Desterrar	120	76.40	20.00	6	9½
16126	142.80	Destinate	126	80.22	21.00	6	9½
16140	168.50	Destiny	140	89.13	23.33	6	9½

NOTE.—By our Machine Molding Process we can furnish Gears of any kind or dimension with comparatively small pattern expense.

For Cut Gear lists, see pages 482 to 502.

Cast Tooth Spur Gears

2 1/8" Pitch

Cast Iron Spur Gears 2⅛" pitch, 6½" face, under ordinary conditions, will transmit 16.91 H. P. at 100 feet per minute on the pitch line, 25.8 H. P. at 200 feet, 33.7 H. P. at 300 feet, 47.22 H. P. at 500 feet, 62.75 H. P. at 750 feet, 75.8 H. P. at 1,000 feet. 88.0 H. P. at 1,250 feet.

Small pinions running with large gears should be shrouded for full load.

Pattern Number	Price Bored with K. S. or S. S.	CODE WORD	Number of Teeth	Pitch Diameter, in Inches	Pitch Circumference, in Feet	Face, Inches	Standard Length Through Hub, Inches
17011	$18.70	Destitute	11	7.54	1.98	6½	7
17016	23.50	Destrados	16	10.89	2.86	6½	7¼
17022	29.20	Destruct	22	14.93	3.91	6½	7¼
17024	31.15	Desudation	24	16.28	4.26	6½	7¼
17028	35.00	Laguro	28	18.98	4.97	6½	7¼
17030	37.00	Lagurus	30	20.33	5.32	6½	7½
17032	39.00	Desuetude	32	21.68	5.67	6½	7½
17034	41.00	Lagynos	34	23.03	6.03	6½	7½
17036	43.00	Desultory	36	24.38	6.38	6½	7¾
17038	45.00	Lahad	38	25.73	6.74	6½	7¾
17040	47.00	Desventura	40	27.09	7.10	6½	7¾
17042	49.20	Laharpe	42	28.44	7.45	6½	8
17043	50.30	Lahmbeine	43	29.11	7.62	6½	8
17044	51.40	Lahmbeinig	44	29.79	7.80	6½	8
17045	52.50	Lahmfuss	45	30.46	7.97	6½	8
17046	53.60	Lahmheit	46	31.14	8.15	6½	8
17047	54.70	Lahmlegen	47	31.82	8.32	6½	8
17048	55.80	Lahmlegung	48	32.49	8.50	6½	8
17049	56.90	Lahngold	49	33.17	8.67	6½	8
17050	58.00	Lahnmacher	50	33.84	8.85	6½	8
17051	59.10	Lahnmuehle	51	34.52	9.03	6½	8
17052	60.20	Lahntresse	52	35.19	9.21	6½	8
17054	62.40	Laical	54	36.55	9.56	6½	8½
17055	63.50	Laicalibus	55	37.22	9.74	6½	8½
17056	64.60	Laidasse	56	37.90	9.91	6½	8½
17058	66.80	Laidement	58	39.25	10.27	6½	8½
17060	69.00	Laidendo	60	40.60	10.63	6½	8½
17062	71.20	Laidezza	62	41.96	10.98	6½	8½
17063	72.30	Laidimmo	63	42.63	11.16	6½	8½
17064	73.40	Laidissimo	64	43.31	11.34	6½	8½
17065	74.50	Laidivamo	65	43.99	11.51	6½	8½
17066	75.60	Laidivate	66	44.66	11.69	6½	8½
17068	77.80	Laidulf	68	46.01	12.05	6½	8½
17070	80.00	Laiengebet	70	47.36	12.40	6½	9
17072	82.20	Laienhaft	72	48.71	12.75	6½	9
17074	84.40	Laienstand	74	50.07	13.10	6½	9
17075	85.50	Laienthum	75	50.75	13.28	6½	9
17076	86.60	Laienwelt	76	51.41	13.46	6½	9
17085	96.50	Desvolver	85	57.51	15.06	6½	9½
17090	102.00	Detach	90	60.89	15.94	6½	9½

NOTE.—By our Machine Molding Process we can furnish Gears of any kind or dimension with comparatively small pattern expense.

For Cut Gear lists, see pages 482 to 502.

Cast Tooth Spur Gears

2 1/4" Pitch

Cast Iron Spur Gears 2¼" pitch, 7" face, under ordinary conditions, will transmit 19.28 H. P. at 100 feet per minute on the pitch line, 29.5 H. P. at 200 feet, 38.4 H. P. at 300 feet, 53.85 H. P. at 500 feet, 71.5 H. P. at 750 feet, 86.42 H. P. at 1,000 feet, 100.4 H. P. at 1,250 feet.

Small pinions running with large gears should be shrouded for full load.

Pattern Number	Price Bored with K. S. or S. S.	CODE WORD	Number of Teeth	Pitch Diameter, in Inches	Pitch Circumference, in Feet	Face, Inches	Standard Length Through Hub, Inches
18010	$19.80	Detaching	10	7.28	1.92	7	7½
18011	20.90	Detachment	11	7.99	2.09	7	7½
18012	22.00	Detail	12	8.69	2.28	7	7½
18013	23.10	Detaillant	13	9.40	2.46	7	7½
18014	24.20	Detainder	14	10.11	2.65	7	7½
18015	25.25	Detect	15	10.82	2.83	7	7½
18016	26.35	Detection	16	11.53	3.02	7	7½
18017	27.40	Detenu	17	12.24	3.20	7	7½
18018	28.50	Determent	18	12.96	3.39	7	7½
18020	30.70	Determiner	20	14.38	3.76	7	7½
18021	31.80	Deterrence	21	15.09	3.95	7	7¾
18022	32.85	Detersive	22	15.81	4.14	7	7¾
18025	36.00	Detestaba	25	17.95	4.70	7	7¾
18026	37.15	Lammherzig	26	18.67	4.89	7	7¾
18027	38.30	Detestable	27	19.38	5.08	7	8
18028	39.40	Detester	28	20.10	5.26	7	8
18029	40.50	Detesting	29	20.81	5.45	7	8
18030	41.60	Lambugeiro	30	21.52	5.64	7	8
18031	42.70	Lambugem	31	22.24	5.83	7	8
18032	43.80	Lambuzar	32	22.95	6.01	7	8
18033	44.90	Lamech	33	23.67	6.20	7	8
18034	46 00	Detonate	34	24.39	6.39	7	8¼
18035	47.10	Morositas	35	25.10	6.58	7	8¼
18036	48.25	Detonation	36	25.82	6.76	7	8¼
18037	49.35	Lamedon	37	26.53	6.95	7	8¼
18038	50.50	Detonator	38	27.25	7.13	7	8¼
18039	51.60	Lamellado	39	27.96	7.32	7	8¼
18040	52.75	Detondebas	40	28.68	7.51	7	8½
18041	53.85	Morrocey	41	29.39	7.70	7	8½
18042	55.00	Detonize	42	30.11	7.88	7	8½
18043	56.20	Lamellaire	43	30.82	8.07	7	8½
18044	57.40	Detortion	44	31.54	8.26	7	8½
18045	58.65	Detorquer	45	32.26	8.44	7	8½
18046	59.85	Detouper	46	32.97	8.63	7	8½
18047	61.05	Lamellarly	47	33.68	8.82	7	8½
18048	62.25	Detour	48	34.40	9.01	7	8½
18049	63.40	Detract	49	35.12	9.19	7	8½
18050	64.60	Detractive	50	35.83	9.38	7	8½
18051	65.85	Detraquer	51	36.52	9.57	7	9
18052	67.10	Detriment	52	37.27	9.75	7	9
18053	68.35	Lamellato	53	37.98	9.94	7	9
18054	69.60	Detrition	54	38.70	10.13	7	9
18055	70.80	Lamelle	55	39.41	10.31	7	9
18056	72.00	Detromper	56	40.13	10.50	7	9
18057	73.30	Detrude	57	40.84	10.69	7	9
18058	74.55	Lammledar	58	41.56	10.88	7	9
18059	75.85	Detruncate	59	42.28	11.07	7	9
18060	77.15	Deturpar	60	42.99	11.25	7	9

NOTE.—By our Machine Molding Process we can furnish Gears of any kind or dimension with comparatively small pattern expense.

For Cut Gear lists, see pages 482 to 502.

Cast Tooth Spur Gears

2 1/4″ Pitch—Continued

For Horse Power transmitted by Spur Gears, 2¼″ pitch
See page 393

Pattern Number	Price Bored with K. S. or S. S.	CODE WORD	Number of Teeth	Pitch Diameter, in Inches	Pitch Circumference, in Feet	Face, Inches	Standard Length Through Hub, Inches
18061	$ 78.40	Lammslab	61	43.71	11.44	7	9
18062	79.65	Deturpala	62	44.42	11.63	7	9
18063	80.90	Devaler	63	45.14	11.81	7	9
18064	82.15	Devantier	64	45.85	12.00	7	9
18065	83.55	Lammssinn	65	46.57	12.19	7	9
18066	84.95	Devast	66	47.29	12.38	7	9
18067	86.35	Devastate	67	48.00	12.57	7	9
18068	87.75	Develop	68	48.72	12.75	7	9½
18069	89.25	Lamellulis	69	49.44	12.94	7	9½
18070	90.75	Lameness	70	50.15	13.13	7	9½
18071	92.25	Lamentacao	71	50.87	13.32	7	9½
18072	93.75	Lamentada	72	51.58	13.51	7	9½
18080	106.00	Developing	80	57.31	15.02	7	9½
18081	107.35	Devengar	81	58.03	15.21	7	9½
18084	112.25	Devengaron	84	60.16	15.77	7	10
18085	113.75	Morsellato	85	60.89	15.96	7	10
18088	118.40	Devergence	88	63.04	16.52	7	10
18090	121.75	Deversabor	90	64.47	16.90	7	10
18091	123.55	Deversior	91	65.19	17.09	7	10
18092	125.20	Devexity	92	65.90	17.28	7	10
18096	132.20	Deviate	96	68.77	18.03	7	10
18097	134.05	Deviously	97	69.48	18.22	7	10
18100	139.40	Devisable	100	71.63	18.78	7	10
18104	146.30	Deviser	104	74.49	19.52	7	10½
18105	148.10	Devitation	105	75.21	19.71	7	10½
18107	151.70	Devoid	107	76.64	20.09	7	10½
18109	155.10	Devolve	109	78.08	20.47	7	10½
18112	161.30	Devolving	112	80.22	21.02	7	10½

2 3/8″ Pitch

Cast Iron Spur Gears 2⅜″ pitch, 7″ face, under ordinary conditions, will transmit 20.65 H. P. at 100 feet per minute on the pitch line, 31.1 H. P. at 200 feet, 40.6 H. P. at 300 feet, 56.8 H. P. at 500 feet, 75.5 H. P. at 750 feet, 91.2 H. P. at 1,000 feet, 106.0 H. P. at 1,250 feet.

Small pinions running with large gears should be shrouded for full load.

19013	$ 25.10	Devorant	13	9.92	2.60	7	8
19028	44.20	Devotedly	28	21.21	5.55	7	8
19029	45.40	Devotement	29	21.96	5.75	7	8
19035	53.20	Lamentados	35	26.95	6.94	7	8½
19038	57.10	Lamentanza	38	28.76	7.53	7	8½
19040	59.70	Lamentaron	40	30.27	7.93	7	8½
19042	62.30	Lamentavel	42	31.78	8.32	7	8½
19045	66.25	Lamenteis	45	34.05	8.92	7	8½
19048	70.20	Devotion	48	36.31	9.51	7	9
19050	72.80	Lamenter	50	37.83	9.90	7	9
19055	79.30	Lamenteras	55	41.60	10.89	7	9
19060	85.80	Lamenting	60	45.38	11.88	7	9
19116	195.00	Devourer	116	87.70	22.96	7	11

NOTE.—By our Machine Molding Process we can furnish Gears of any kind or dimension with comparatively small pattern expense.

For Cut Gear lists, see pages 482 to 502.

Cast Tooth Spur Gears

2 1/2" Pitch

Cast Iron Spur Gears 2½" pitch, 7½" face, under ordinary conditions, will transmit 22.95 H. P. at 100 feet per minute on the pitch line, 35.06 H. P. at 200 feet, 45.7 H. P. at 300 feet, 64.1 H. P. at 500 feet, 85.2 H. P. at 750 feet, 102.9 H. P. at 1,000 feet, 119.5 H. P. at 1,250 feet.

Small pinions running with large gears should be shrouded for full load.

Pattern Number	Price Bored with K. S. or S. S.	CODE WORD	Number of Teeth	Pitch Diameter, in Inches	Pitch Circumference, in Feet	Face, Inches	Standard Length Through Hub, Inches
20010	$23.85	Devoutly	10	8.09	2.12	7½	8
20011	25.30	Lamento	11	8.88	2.33	7½	8
20012	26.80	Devoutness	12	9.66	2.53	7½	8
20013	28.35	Dewberry	13	10.45	2.74	7½	8
20014	29.90	Dewdrop	14	11.23	2.94	7½	8
20015	31.45	Dewiness	15	12.03	3.15	7½	8
20016	33.00	Dexter	16	12.81	3.36	7½	8¼
20017	34.50	Dexterity	17	13.60	3.57	7½	8¼
20018	36.05	Dexterous	18	14.40	3.77	7½	8¼
20019	37.55	Dextral	19	15.19	3.98	7½	8¼
20020	39.10	Dextrality	20	15.98	4.18	7½	8¼
20021	40.65	Diabetes	21	16.77	4.39	7½	8¼
20022	42.20	Diablotin	22	17.57	4.60	7½	8¼
20023	43.80	Diabolical	23	18.31	4.81	7½	8¼
20024	45.40	Diachylum	24	19.15	5.01	7½	8½
20025	47.05	Diacitron	25	19.95	5.22	7½	8½
20026	48.70	Diaconal	26	20.74	5.43	7½	8½
20027	50.35	Diacritic	27	21.53	5.64	7½	8½
20028	51.95	Diafragma	28	22.33	5.85	7½	8½
20029	53.50	Diagnosis	29	23.12	6.06	7½	8½
20030	55.10	Diagonal	30	23.92	6.26	7½	8½
20031	56.70	Dial	31	24.71	6.47	7½	8¾
20032	58.25	Dialect	32	25.51	6.68	7½	8¾
20033	59.85	Dialogism	33	26.30	6.89	7½	8¾
20034	61.50	Dialpate	34	27.09	7.10	7½	8¾
20035	63.10	Dialtic	35	27.89	7.31	7½	8¾
20036	64.70	Diamantino	36	28.68	7.51	7½	8¾
20037	66.35	Diametric	37	29.49	7.72	7½	9
20038	68.00	Dianatic	38	30.27	7.93	7½	9
20039	69.65	Diapason	39	31.07	8.14	7½	9
20040	71.35	Diaper	40	31.86	8.35	7½	9
20041	73.00	Lamentons	41	32.65	8.56	7½	9
20042	74.60	Diaphanic	42	33.45	8.76	7½	9
20043	76.20	Diaphorese	43	34.25	8.97	7½	9
20044	77.80	Diaphragm	44	35.04	9.17	7½	9
20045	79.40	Diarian	45	35.84	9.38	7½	9
20046	81.00	Diary	46	36.64	9.59	7½	9½
20047	82.65	Lamentosos	47	37.43	9.80	7½	9½
20048	84.30	Diascane	48	38.22	10.00	7½	9½
20049	86.00	Diastole	49	39.02	10.21	7½	9½
20050	87.65	Diathesis	50	39.82	10.42	7½	9½
20051	89.35	Lamentosum	51	40.62	10.63	7½	9½
20052	91.05	Diatonse	52	41.41	10.84	7½	9½
20053	92.70	Diatribist	53	42.20	11.05	7½	9½
20054	94.45	Lameplatos	54	43.00	11.25	7½	9½
20055	96.20	Lameras	55	43.79	11.46	7½	9½
20056	97.95	Mortadella	56	44.58	11.67	7½	9½

NOTE.—By our Machine Molding Process we can furnish Gears of any kind or dimension with comparatively small pattern expense.

For Cut Gear lists, see pages 482 to 502.

Cast Tooth Spur Gears

2 1/2″ Pitch—Continued

For Horse Power transmitted by Spur Gears, 2½″ pitch
See page 395

Pattern Number	Price Bored with K. S. or S. S.	CODE WORD	Number of Teeth	Pitch Diameter, in Inches	Pitch Circumference, in Feet	Face, Inches	Standard Length Through Hub, Inches
20057	$ 99.70	Lameriamos	57	45.38	11.87	7½	9½
20058	101.45	Dibble	58	46.18	12.08	7½	9½
20059	103.20	Lamerliere	59	46.98	12.29	7½	9½
20060	104.95	Dibstone	60	47.77	12.50	7½	9½
20061	106.70	Lamfers	61	48.57	12.71	7½	9½
20062	108.45	Lamiamos	62	49.36	12.92	7½	9½
20063	110.25	Mortario	63	50.15	13.13	7½	10
20064	112.05	Dicacite	64	50.95	13.34	7½	10
20065	113.85	Lamianorum	65	51.74	13.54	7½	10
20066	115.65	Dichroism	66	52.54	13.75	7½	10
20068	119.25	Dictate	68	54.13	14.17	7½	10
20070	122.65	Dictation	70	55.72	14.58	7½	10
20072	126.35	Mortecino	72	57.31	15.00	7½	10
20074	130.05	Diction	74	58.90	15.42	7½	10
20076	133.90	Didactic	76	60.50	15.84	7½	10½
20079	139.70	Limoctonia	79	62.88	16.46	7½	10½
20080	141.65	Didler	80	63.68	16.67	7½	10½
20082	145.35	Diedral	82	65.27	17.09	7½	10½
20083	147.40	Limodore	83	66.05	17.30	7½	10½
20085	151.40	Dietary	85	67.66	17.72	7½	10½
20088	157.30	Morterada	88	70.04	18.34	7½	10½
20090	161.30	Dietetic	90	71.63	18.76	7½	10½
20092	165.70	Diezmar	92	73.23	19.18	7½	11
20096	174.10	Difamar	96	76.41	20.01	7½	11
20098	178.55	Difamador	98	78.00	20.42	7½	11
20099	180.85	Limoenboom	99	78.80	20.63	7½	11
20102	187.75	Differ	102	81.18	21.25	7½	11
20104	192.25	Limoenkist	104	82.77	21.66	7½	11½
20105	194.50	Mortervelo	105	83.56	21.87	7½	11½
20106	196.75	Differing	106	84.36	22.08	7½	11½
20110	206.00	Limoenpit	110	87.55	22.92	7½	11½
20113	213.00	Difficile	113	89.93	23.54	7½	11½
20122	235.00	Difficiti	122	97.09	25.41	7½	12

2 3/4″ Pitch

Cast Iron Spur Gears 2¾″ pitch, 8″ face, under ordinary conditions, will transmit 26.93 H. P. at 100 feet per minute on the pitch line, 41.1 H. P. at 200 feet, 53.7 H. P. at 300 feet, 75.2 H. P. at 500 feet, 100 H. P. at 750 feet, 121 H. P. at 1,000 feet, 140 H. P. at 1,250 feet.

Small pinions running with large gears should be shrouded for full load.

22011	$ 30.20	Diffidence	11	9.76	2.56	8	8½
22012	32.40	Lamianum	12	10.63	2.78	8	8½
22013	34.60	Difformity	13	11.49	3.01	8	8½
22014	36.80	Lamicando	14	12.36	3.24	8	8½
22015	39.00	Diffract	15	13.23	3.47	8	8½
22016	41.20	Diffuse	16	14.10	3.70	8	9
22017	43.40	Lamicare	17	14.97	3.92	8	9

NOTE.—By our Machine Molding Process we can furnish Gears of any kind or dimension with comparatively small pattern expense.

For Cut Gear lists, see pages 482 to 502.

Cast Tooth Spur Gears

2 3/4″ Pitch—Continued

For Horse Power transmitted by Spur Gears, 2¾″ pitch
See page 396

Pattern Number	Price Bored with K. S. or S. S.	CODE WORD	Number of Teeth	Pitch Diameter, in Inches	Pitch Circumference, in Feet	Face, Inches	Standard Length Through Hub, Inches
22019	$ 47.80	Diffusive	19	16.71	4.38	8	9
22020	50.00	Digerent	20	17.58	4.60	8	9
22021	52.20	Digest	21	18.45	4.83	8	9
22022	54.40	Digestible	22	19.32	5.06	8	9
22023	56.60	Digestion	23	20.20	5.29	8	9
22024	58.80	Lamicasse	24	21.07	5.52	8	9
22025	61.00	Lamicava	25	21.94	5.75	8	9
22026	63.20	Lamidos	26	22.81	5.98	8	9
22027	65.40	Digging	27	23.69	6.21	8	9
22028	67.60	Lamierone	28	24.57	6.44	8	9
22029	69.80	Lamina	29	25.44	6.67	8	9
22030	72.00	Laminable	30	26.31	6.90	8	9
22031	74.20	Digitus	31	27.18	7.12	8	9½
22032	76.40	Laminador	32	28.06	7.35	8	9½
22033	78.60	Laminajes	33	28.93	7.58	8	9½
22034	80.80	Laminarlo	34	29.80	7.81	8	9½
22035	83.00	Laminasses	35	30.68	8.04	8	9½
22036	85.20	Laminated	36	31.56	8.26	8	9½
22037	87.40	Lamineront	37	32.43	8.49	8	9½
22038	89.60	Digitalia	38	33.30	8.72	8	9½
22039	91.80	Laminiez	39	34.18	8.95	8	9½
22040	94.00	Diglyph	40	35.06	9.18	8	9½
22041	96.20	Laminollo	41	35.93	9.41	8	9½
22042	98.40	Laminons	42	36.80	9.64	8	9½
22043	100.60	Laminosas	43	37.68	9.87	8	9½
22044	102.80	Dignarse	44	38.55	10.10	8	10
22045	105.00	Lamiodonti	45	39.43	10.33	8	10
22046	107.20	Lamioni	46	40.30	10.56	8	10
22047	109.40	Lamismo	47	41.18	10.79	8	10
22048	111.60	Dignement	48	42.05	11.02	8	10
22049	113.80	Dignified	49	42.92	11.25	8	10
22050	116.00	Lamissa	50	43.80	11.47	8	10
22051	118.20	Lamlendig	51	44.67	11.70	8	10
22052	120.40	Lammeling	52	45.55	11.93	8	10
22053	122.60	Lammellam	53	46.42	12.16	8	10
22054	124.80	Lammergier	54	47.30	12.39	8	10
22055	127.00	Mortualia	55	48.17	12.62	8	10½
22056	129.20	Lammes	56	49.04	12.85	8	10½
22057	131.40	Lammfell	57	49.92	13.08	8	10½
22058	133.60	Digonous	58	50.79	13.31	8	10½
22059	135.80	Lammigheid	59	51.67	13.54	8	10½
22060	138.00	Lammfromm	60	52.55	13.76	8	10½
22062	142.40	Digression	62	54.29	14.22	8	10½
22064	147.00	Dilacerer	64	56.04	14.68	8	10½
22067	154.00	Dilaniat	67	58.67	15.37	8	10½
22069	159.10	Dilatador	69	60.42	15.83	8	11
22070	161.50	Dilatable	70	61.30	16.05	8	11
22072	166.10	Dilate	72	63.05	16.51	8	11
22073	168.50	Dilation	73	63.92	16.74	8	11

NOTE.—By our Machine Molding Process we can furnish Gears of any kind or dimension with comparatively small pattern expense.

For Cut Gear lists, see pages 482 to 502.

Cast Tooth Spur Gears

2 3/4″ Pitch—Continued

For Horse Power transmitted by Spur Gears, 2¾″ pitch
See page 396

Pattern Number	Price Bored with K. S. or S. S.	CODE WORD	Number of Teeth	Pitch Diameter, in Inches	Pitch Circumference, in Feet	Face, Inches	Standard Length Through Hub, Inches
22078	$180.50	Dilatory	78	68.29	17.89	8	11
22080	185.60	Moscadato	80	70.04	18.35	8	11
22082	190.80	Diligent	82	71.80	18.81	8	11
22086	200.50	Dilligently	86	75.30	19.73	8	11½
22087	203.90	Dilettante	87	76.17	19.96	8	11½
22089	208.50	Dilucid	89	77.92	20.42	8	11½
22110	273.00	Dilution	110	96.30	25.21	8	12½

3″ Pitch

Cast Iron Spur Gears 3″ pitch, 9″ face, under ordinary conditions, will transmit 33.05 H. P. at 100 feet per minute on the pitch line, 50.5 H. P. at 200 feet, 65.9 H. P. at 300 feet, 92.3 H. P. at 500 feet, 123 H. P. at 750 feet, 148 H. P. at 1,000 feet, 172 H. P. at 1,250 feet.

Small pinions running with large gears should be shrouded for full load.

24010	$33.90	Diluvial	10	9.71	2.54	9	9½
24012	39.75	Dimble	12	11.59	3.03	9	9½
24013	42.65	Dimensao	13	12.53	3.28	9	9½
24014	45.55	Dimensive	14	13.48	3.53	9	9½
24015	48.25	Dimication	15	14.43	3.78	9	9½
24016	50.90	Diminish	16	15.38	4.03	9	9½
24017	53.80	Diminutive	17	16.33	4.28	9	10
24018	56.70	Dimity	18	17.27	4.53	9	10
24021	64.90	Dimness	21	20.13	5.27	9	10
24022	67.80	Dimpled	22	21.08	5.52	9	10
24023	70.70	Dinatoire	23	22.03	5.77	9	10
24024	73.60	Dindonneau	24	22.99	6.02	9	10
24025	76.25	Dineroso	25	23.94	6.27	9	10
24026	79.15	Dinetical	26	24.89	6.52	9	10
24027	82.05	Dingdong	27	25.84	6.77	9	10
24028	84.95	Limoensap	28	26.79	7.02	9	10
24029	87.85	Dinginess	29	27.74	7.27	9	10
24030	90.75	Limoentjes	30	28.70	7.52	9	10
24031	93.65	Dintelar	31	29.65	7.76	9	10½
24032	96.60	Diocesan	32	30.61	8.01	9	10½
24033	99.50	Limonaio	33	31.56	8.26	9	10½
24034	102.45	Diodonto	34	32.51	8.51	9	10½
24035	105.35	Dioptric	35	33.49	8.76	9	10½
24036	108.25	Dioristic	36	34.42	9.01	9	10½
24037	111.10	Limonato	37	35.38	9.26	9	11
24038	114.00	Diorite	38	36.33	9.51	9	11
24039	117.00	Limoncello	39	37.29	9.76	9	11
24040	120.00	Diphthong	40	38.24	10.01	9	11
24041	122.90	Limoncini	41	39.19	10.26	9	11
24042	125.75	Diploite	42	40.14	10.51	9	11
24043	129.25	Diplomatic	43	41.10	10.76	9	11
24044	132.75	Dipping	44	42.05	11.01	9	11
24045	136.25	Limoneras	45	43.01	11.26	9	11
24046	139.75	Limoniades	46	43.96	11.51	9	11

NOTE.—By our Machine Molding Process we can furnish Gears of any kind or dimension with comparatively small pattern expense.

For Cut Gear lists, see pages 482 to 502.

Cast Tooth Spur Gears

3″ Pitch—Continued

For Horse Power transmitted by Spur Gears, 3″ pitch
See page 398

Pattern Number	Price Bored with K. S. or S. S.	CODE WORD	Number of Teeth	Pitch Diameter, in Inches	Pitch Circumference, in Feet	Face, Inches	Standard Length Through Hub Inches
24047	$143.25	Dipterous	47	44.92	11.76	9	11
24048	146.75	Diphtheria	48	45.87	12.01	9	11
24049	150.25	Limoniadum	49	46.83	12.26	9	11
24050	153.75	Diptica	50	47.78	12.51	9	11
24051	157.50	Limoniate	51	48.73	12.76	9	11½
24052	161.00	Diptongar	52	49.69	13.00	9	11½
24053	164.50	Limonoso	53	50.64	13.25	9	11½
24054	168.00	Directive	54	51.59	13.50	9	11½
24055	171.00	Moscardino	55	52.55	13.75	9	11½
24056	174.00	Direful	56	53.50	14.00	9	11½
24058	180.00	Direness	58	55.41	14.50	9	11½
24060	186.00	Dirge	60	57.32	15.00	9	11½
24062	193.00	Dirigent	62	59.23	15.50	9	11½
24063	196.00	Dirimant	63	60.19	15.75	9	12
24064	199.00	Dirimir	64	61.14	16.00	9	12
24066	205.00	Dirtiness	66	63.05	16.50	9	12
24068	212.00	Disability	68	64.96	17.00	9	12
24069	215.00	Disabuse	69	65.91	17.25	9	12
24072	225.00	Disaffect	72	68.78	18.00	9	12
24074	232.00	Disagree	74	70.69	18.50	9	12
24076	238.00	Disally	76	72.60	19.00	9	12½
24082	258.00	Disanimate	82	78.31	20.50	9	12½
24084	265.00	Disarm	84	80.23	21.00	9	12½
24088	280.00	Moscouade	88	84.05	22.00	9	12½
24098	320.00	Mostaccino	98	93.60	24.50	9	13
24100	328.00	Disarray	100	95.51	25.00	9	13
24102	337.00	Disastrous	102	97.42	25.50	9	13
24105	352.00	Disattach	105	100.28	26.25	9	13
24114	394.00	Disavow	114	108.88	28.50	9	13½
24116	405.00	Disbanding	116	110.78	29.00	9	14
24120	427.00	Disbelief	120	114.60	30.00	9	14
24126	463.00	Disburser	126	120.33	31.50	9	14½
24129	483.00	Disburthen	129	123.20	32.25	9	14½
24162	650.00	Discarding	162	154.70	40.50	9	16

3 1/4″ Pitch

Cast Iron Spur Gears 3¼″ pitch, 9½″ face, under ordinary conditions, will transmit 37.8 H. P. at 100 feet per minute on the pitch line, 58 H. P. at 200 feet, 75 H. P. at 300 feet, 106 H. P. at 500 feet, 140 H. P. at 750 feet, 170 H. P. at 1,000 feet, 197 H. P. at 1,250 feet.

Small pinions running with large gears should be shrouded for full load.

26012	$ 47.70	Discarnate	12	12.56	3.29	9½	10
26013	51.20	Disceptar	13	13.58	3.56	9½	10
26017	64.50	Discern	17	17.69	4.63	9½	10
26019	71.30	Limosidade	19	19.75	5.17	9½	10
26020	74.70	Limosinano	20	20.77	5.44	9½	10½
26022	78.10	Limosinare	22	22.83	5.98	9½	10½

NOTE.—By our Machine Molding Process we can furnish Gears of any kind or dimension with comparatively small pattern expense.

For Cut Gear lists, see pages 482 to 502.

Cast Tooth Spur Gears

3 1/4″ Pitch—Continued

For Horse Power transmitted by Spur Gears, 3¼″ pitch
See page 399

Pattern Number	Price Bored with K. S. or S. S.	CODE WORD	Number of Teeth	Pitch Diameter, in Inches	Pitch Circumference, in Feet	Face, Inches	Standard Length Through Hub, Inches
26024	$ 88.30	Discerning	24	24.90	6.52	9½	10½
26026	96.00	Limosinava	26	26.96	7.06	9½	10½
26040	144.00	Discipline	40	41.42	10.85	9½	11
26042	150.90	Disclaim	42	43.49	11.39	9½	11
26052	193.00	Disclosure	52	53.83	14.09	9½	11½
26058	216.00	Limosino	58	60.03	15.72	9½	11½
26060	223.00	Discolor	60	62.10	16.26	9½	12
26062	231.00	Discomfort	62	64.17	16.80	9½	12
26064	239.00	Discommode	64	66.23	17.34	9½	12
26066	247.00	Discompose	66	68.30	17.88	9½	12
26070	263.00	Disconcert	70	72.44	18.97	9½	12½
26080	302.00	Discontent	80	82.78	21.69	9½	12½
26084	318.00	Discord	84	86.90	22.78	9½	13
26086	327.00	Discordant	86	88.99	23.32	9½	13
26088	336.00	Discourage	88	91.05	23.87	9½	13
26094	365.00	Discourse	94	97.26	25.47	9½	13½
26102	404.00	Discovery	102	105.54	27.63	9½	13½

3 1/2″ Pitch

Cast Iron Spur Gears 3½″ pitch, 10½″ face, under ordinary conditions, will transmit 45 H. P. at 100 feet per minute on the pitch line, 69 H. P. at 200 feet, 90 H. P. at 300 feet, 126 H. P. at 500 feet, 167 H. P. at 750 feet, 202 H. P. at 1,000 feet, 234 H. P. at 1,250 feet.

Small pinions running with large gears should be shrouded for full load.

28010	$ 50.80	Discredit	10	11.33	2.96	10½	11
28012	59.60	Discreet	12	13.52	3.54	10½	11
28015	72.40	Discrepant	15	16.83	4.40	10½	11
28016	76.60	Limosis	16	17.94	4.69	10½	11
28017	80.80	Limosna	17	19.05	4.98	10½	11
28019	89.00	Discreatear	19	21.27	5.56	10½	11
28021	97.30	Discrimen	21	23.48	6.14	10½	11½
28022	101.70	Disculper	22	24.59	6.44	10½	11½
28024	110.40	Discursive	24	26.82	7.02	10½	11½
28036	162.40	Discursory	36	40.16	10.50	10½	12
28046	209.00	Discuss	46	51.29	13.42	10½	12½
28048	220.00	Disdainful	48	53.52	14.00	10½	12½
28050	231.00	Disdaining	50	55.74	14.60	10½	12½
28056	264.00	Disecador	56	62.42	16.34	10½	13
28059	279.00	Limosnera	59	65.77	17.22	10½	13
28062	294.00	Disembody	62	69.10	18.10	10½	13
28064	300.00	Disenchant	64	71.33	18.68	10½	13
28070	330.00	Disfavor	70	77.99	20.44	10½	13½
28076	360.00	Disfigure	76	84.69	22.18	10½	14
28087	415.00	Limosneros	87	96.94	25.39	10½	14
28088	420.00	Disforest	88	98.06	25.68	10½	14½
28096	460.00	Disgorge	96	106.97	28.00	10½	14½
28107	533.00	Limosorum	107	119.22	31.21	10½	15½
28108	540.00	Disgorging	108	120.34	31.50	10½	15½
28110	550.00	Disgrace	110	122.57	32.08	10½	15½

NOTE.—By our Machine Molding Process we can furnish Gears of any kind or dimension with comparatively small pattern expense.

For Cut Gear lists, see pages 482 to 502.

Cast Tooth Spur Gears

3 3/4" Pitch

Cast Iron Spur Gears 3¾" pitch, 11" face, under ordinary conditions, will transmit 50.5 H. P. at 100 feet per minute on the pitch line, 77 H. P. at 200 feet, 101 H. P. at 300 feet, 141 H. P. at 500 feet, 187 H. P. at 750 feet, 226 H. P. at 1,000 feet, 263 H. P. at 1,250 feet.

Small pinions running with large gears should be shrouded for full load.

Pattern Number	Price Bored with K. S. or S. S.	CODE WORD	Number of Teeth	Pitch Diameter, in Inches	Pitch Circumference, in Feet	Face, Inches	Standard Length Through Hub, Inches
30013	$ 72.50	Disgregate	13	15.67	4.10	11	11½
30018	96.40	Disguise	18	21.59	5.66	11	11½
30025	129.60	Disgusting	25	29.92	7.84	11	12
30029	149.00	Dishearten	29	34.68	9.08	11	12½
30032	164.00	Dishers	32	38.26	10.01	11	12½
30038	194.00	Dishevel	38	45.41	11.89	11	12½
30044	225.00	Dishing	44	52.57	13.76	11	13
30045	230.00	Disincline	45	53.76	14.07	11	13
30052	265.00	Disinherit	52	62.11	16.26	11	13½
30062	315.00	Disinter	62	74.04	19.38	11	14
30066	339.00	Disinthral	66	78.81	20.64	11	14
30082	435.00	Disjoint	82	97.90	25.65	11	15
30090	483.00	Disliking	90	107.45	28.17	11	15
30098	531.00	Dislocate	98	117.00	30.63	11	15½
30106	579.00	Dislodge	106	126.55	33.14	11	16
30126	700.00	Dismally	126	150.42	39.37	11	17

4" Pitch

Cast Iron Spur Gears 4" pitch, 12" face, under ordinary conditions, will transmit 59 H P. at 100 feet per minute on the pitch line, 90 H. P. at 200 feet, 117 H. P. at 300 feet, 164 H. P. at 500 feet, 218 H. P. at 750 feet, 264 H. P. at 1,000 feet, 306 H. P. at 1,250 feet.

Small pinions running with large gears should be shrouded for full load.

32011	$ 73.65	Dismalness	11	14.20	3.72	12	12½
32013	85.30	Dismantle	13	16.71	4.38	12	12½
32014	91.10	Dismay	14	17.98	4.71	12	12½
32015	96.50	Dismember	15	19.24	5.04	12	12½
32016	101.80	Dismount	16	20.50	5.38	12	12½
32018	113.40	Disoblige	18	23.03	6.04	12	13
32019	118.90	Disparage	19	24.30	6.37	12	13
32020	124.40	Disparity	20	25.57	6.70	12	13
32021	129.80	Dispel	21	26.84	7.03	12	13
32023	141.40	Dispelling	23	29.38	7.69	12	13
32024	147.20	Dispensary	24	30.65	8.02	12	13
32026	158.30	Dispensing	26	33.18	8.69	12	13
32027	164.00	Disperge	27	34.46	9.02	12	13½
32028	170.00	Dispersion	28	35.73	9.35	12	13½
32030	182.00	Displant	30	38.26	10.02	12	13½
32032	193.00	Display	32	40.81	10.69	12	13½
32034	205.00	Displaying	34	43.35	11.35	12	13½
32035	211.00	Disponge	35	44.62	11.69	12	13½
32038	228.00	Disproof	38	48.44	12.69	12	14
32039	234.00	Disprover	39	49.71	13.02	12	14
32040	240.00	Dispuesto	40	50.98	13.35	12	14
32042	254.00	Disputant	42	53.53	14.02	12	14
32043	261.00	Mostachoso	43	54.75	14 35	12	14
32048	294.00	Disputer	48	61.16	16.00	12	14½

NOTE.—By our Machine Molding Process we can furnish Gears of any kind or dimension with comparatively small pattern expense.

For Cut Gear Lists, see pages 482 to 502.

Cast Tooth Spur Gears

4″ Pitch—Continued

For Horse Power transmitted by Spur Gears 4″ pitch
See page 401

Pattern Number	Price Bored with K. S. or S. S.	CODE WORD	Number of Teeth	Pitch Diameter, in Inches	Pitch Circumference, in Feet	Face, Inches	Standard Length Through Hub, Inches
32049	$300.00	Disqualify	49	62.78	16.33	12	14½
32052	318.00	Disque	52	66.25	17.33	12	14½
32054	330.00	Disquiet	54	68.79	18.00	12	14½
32056	342.00	Disregard	56	71.34	18.67	12	14½
32058	354.00	Disrepute	58	73.88	19.33	12	15
32060	366.00	Disrespect	60	76.43	20.00	12	15
32062	378.00	Disrobe	62	78.98	20.67	12	15
32064	390.00	Disrobing	64	81.52	21.33	12	15
32066	402.00	Disruption	66	84.06	22.00	12	15½
32070	426.00	Dissect	70	89.16	23.33	12	15½
32078	474.00	Dissection	78	99.34	26.00	12	16
32084	510.00	Dissembler	84	106.98	28.00	12	16
32085	516.00	Dissenter	85	108.25	28.33	12	16½
32087	528.00	Dissidence	87	110.79	29.00	12	16½
32094	570.00	Dissilient	94	119.70	31.33	12	16½
32098	594.00	Dissipate	98	124.80	32.67	12	17
32106	648.00	Dissolute	106	134.98	35.33	12	17½
32107	655.00	Dissolvent	107	136.25	35.67	12	17½
32112	690.00	Dissonant	112	142.62	37.33	12	17½
32116	718.00	Dissuader	116	147.71	38.67	12	18
32118	732.00	Distaff	118	150.26	39.33	12	18
32124	774.00	Distance	124	157.90	41.33	12	18½
32126	788.00	Distantial	126	160.44	42.00	12	18½
32136	858.00	Distaste	136	173.18	45.33	12	19
32138	872.00	Distemper	138	175.72	46.00	12	19
32144	914.00	Distending	144	183.36	48.00	12	19½
32168	1082.00	Distension	168	213.92	56.00	12	20½
32180	1166.00	Distich	180	229.20	60.00	12	21½

4 1/2″ Pitch

Cast Iron Spur Gears 4½″ pitch, 14″ face, under ordinary conditions, will transmit 77 H. P. at 100 feet per minute on the pitch line, 118 H. P. at 200 feet, 154 H. P. at 300 feet. 216 H. P. at 500 feet, 286 H. P. at 750 feet, 346 H. P. at 1,000 feet, 402 H. P. at 1,250 feet.

Small pinions running with large gears should be shrouded for full load.

36017	.....	Distiller	17	24.49	6.40	14	15
36018	.....	Distilling	18	25.91	6.78	14	15
36021	.....	Distortion	21	30.20	7.90	14	15
36022	.....	Distracted	22	31.62	8.28	14	15
36030	.....	Distrainer	30	43.05	11.28	14	15½
36031	.....	Distraught	31	44.48	11.66	14	15½
36032	.....	Distrayant	32	45.91	12.02	14	15½
36033	.....	Distressed	33	47.34	12.40	14	15½
36034	.....	Distribute	34	48.77	12.78	14	16
36038	.....	District	38	54.49	14.26	14	16
36040	.....	Disturber	40	57.36	15.02	14	16
36042	.....	Disturbing	42	60.22	15.76	14	16½

NOTE.—By our Machine Molding Process we can furnish Gears of any kind or dimension with comparatively small pattern expense.

For Cut Gear Lists, see pages 482 to 502.

Cast Tooth Spur Gears

4 1/2" Pitch—Continued

For Horse Power transmitted by Spur Gears 4½" pitch
See page 402

Pattern Number	Price Bored with K. S. or S. S.	CODE WORD	Number of Teeth	Pitch Diameter, in Inches	Pitch Circumference, in Feet	Face, Inches	Standard Length Through Hub, Inches
36043	.....	Mostardal	43	61.65	16.14	14	16½
36044	.....	Disuelto	44	63.08	16.52	14	16½
36045	.....	Ditch	45	64.46	16.88	14	16½
36046	.....	Ditching	46	65.94	17.26	14	16½
36048	.....	Ditchman	48	68.80	18.02	14	16½
36054	.....	Ditirambo	54	77.39	20.26	14	17
36058	.....	Mostearon	58	83.11	21.76	14	17
36060	.....	Ditty	60	85.98	22.50	14	17½
36064	.....	Diuretic	64	91.71	24.00	14	17½
36068	.....	Diurnally	68	97.44	25.50	14	18
36070	.....	Divagante	70	100.30	26.26	14	18
36078	.....	Divan	78	111.76	29.25	14	18½
36084	.....	Divarique	84	120.33	31.54	14	19
36092	.....	Divergent	92	131.81	34.56	14	19
36094	.....	Diversely	94	134.67	35.31	14	19½
36096	.....	Diversion	96	137.53	36.06	14	19½
36100	.....	Divesture	100	143.26	37.56	14	19½
36105	.....	Dividable	105	150.42	39.42	14	20
36112	.....	Dividuous	112	160.45	42.04	14	20½
36119	.....	Divination	119	170.47	44.62	14	21
36128	.....	Divinement	128	183.36	48.00	14	21½

5" Pitch

Cast Iron Spur Gears 5" pitch, 16" face, under ordinary conditions, will transmit 98 H. P. at 100 feet per minute on the pitch line, 150 H. P. at 200 feet, 195 H. P. at 300 feet, 274 H. P. at 500 feet, 364 H. P. at 750 feet, 439 H. P. at 1,000 feet, 510 H. P. at 1,250 feet.

Small pinions running with large gears should be shrouded for full load.

40015	.....	Diviner	15	24.05	6.30	16	17
40019	.....	Divisional	19	30.38	7.96	16	17
40020	.....	Divorcible	20	31.96	8.36	16	17
40030	.....	Divorcing	30	47.83	12.52	16	17½
40036	.....	Divulgate	36	57.37	15.02	16	18
40040	.....	Divulger	40	63.73	16.70	16	18½
40044	.....	Divulsion	44	70.09	18.34	16	18½
40056	.....	Dizenier	56	89.17	23.34	16	19½
40062	.....	Dizziness	62	98.72	25 84	16	20
40076	.....	Doatingly	76	120.99	31.68	16	21
40080	.....	Doblado	80	127.36	33.34	16	21
40098	.....	Docile	98	156.00	40.84	16	22½
40101	.....	Docility	101	160.77	42.10	16	22½
40102	.....	Docimacy	102	162.36	42.50	16	22½
40104	.....	Docimastic	104	165.54	43.33	16	22½
40106	.....	Dockleaf	106	168.73	44.16	16	23
40116	.....	Dockman	116	184.64	48.33	16	23½
40120	.....	Docksill	120	191.01	50.00	16	23½
40146	.....	Dockyard	146	232.38	60.83	16	23½

NOTE.—By our Machine Molding Process we can furnish Gears of any kind or dimension with comparatively small pattern expense.

For Cut Gear Lists, see pages 482 to 502.

Cast Tooth Spur Gears

5 1/2" Pitch

Cast Iron Spur Gears 5½" pitch, 18" face, under ordinary conditions, will transmit 121 H. P. at 100 feet per minute on the pitch line, 185 H. P. at 200 feet, 242 H. P. at 300 feet, 339 H. P. at 500 feet, 450 H. P. at 750 feet, 543 H. P. at 1,000 feet, 631 H. P. at 1,250 feet.

Small pinions running with large gears should be shrouded for full load.

Pattern Number	Price Bored with K. S. or S. S.	CODE WORD	Number of Teeth	Pitch Diameter, in Inches	Pitch Circumference, in Feet	Face, Inches	Standard Length Through Hub, Inches
44016	.....	Doctor	16	28.18	7.40	18	19
44022	.....	Doctrinal	22	38.65	10.12	18	19½
44028	.....	Dodger	28	49.13	12.88	18	20
44036	.....	Dodiner	36	63.11	16.52	18	20½
44046	.....	Dogaresse	46	80.60	21.12	18	21
44050	.....	Dogberry	50	87.58	22.94	18	21½
44056	.....	Dogfish	56	98.09	25.70	18	22
44060	.....	Doggerel	60	105.71	27.52	18	22
44062	.....	Dogleech	62	108.59	28.44	18	22½
44068	.....	Dogma	68	119.09	31.20	18	22½

6" Pitch

Cast Iron Spur Gears 6" pitch, 20" face, under ordinary conditions, will transmit 147 H. P. at 100 feet per minute on the pitch line, 225 H. P. at 200 feet, 293 H. P. at 300 feet, 410 H. P. at 500 feet, 545 H. P. at 750 feet, 659 H. P. at 1,000 feet, 765 H. P. at 1,250 feet.

Small pinions running with large gears should be shrouded for full lead.

48018	.....	Dogmatic	18	34.55	9.06	20	21½
48021	.....	Dogrose	21	40.26	10.54	20	21½
48024	.....	Dogsmeat	24	45.97	12.04	20	21½
48025	.....	Dogstar	25	47.87	12.54	20	21½
48026	.....	Dogtrot	26	49.78	13.04	20	22
48028	.....	Dogwatch	28	53.59	14.04	20	22
48032	.....	Dogwood	32	61.21	16.02	20	22½
48034	.....	Doigtier	34	65.03	17.02	20	22½
48036	.....	Dolaire	36	68.84	18.02	20	22½
48037	.....	Dolamas	37	70.75	18.52	20	22½
48038	.....	Doleful	38	72.66	19 02	20	23
48040	.....	Dolencia	40	76.47	20.02	20	23
48043	.....	Dolesome	43	82.20	21.52	20	23
48045	.....	Doliman	45	86.02	22.52	20	23½
48046	.....	Dolly	46	87.92	23.02	20	23½
48047	.....	Dolomite	47	89.83	23.52	20	23½
48049	.....	Dolorific	49	93.65	24.51	20	23½
48050	.....	Dolorous	50	95.56	25.01	20	23½
48052	.....	Dolphin	52	99.37	26.00	20	24
48053	.....	Doltish	53	101.28	26.50	20	24
48056	.....	Domadura	56	107.01	28.00	20	24
48058	.....	Domain	58	110.82	29.00	20	24½
48063	.....	Domanial	63	120.37	31.50	20	25
48064	.....	Domed	64	122.28	32.00	20	25
48065	.....	Domestic	65	124.19	32.50	20	25
48072	.....	Dominant	72	137.55	36.00	20	25½
48075	.....	Domineer	75	143.28	37.50	20	25½
48078	.....	Dominical	78	149.01	39.00	20	26
48086	.....	Dominion	86	164.28	43.00	20	26½
48100	.....	Dompteur	100	191.02	50.00	20	27½

NOTE.—By our Machine Molding Process we can furnish Gears of any kind or dimension with comparatively small pattern expense.

For Cut Gear Lists, see pages 482 to 502.

Cast Tooth Spur Racks

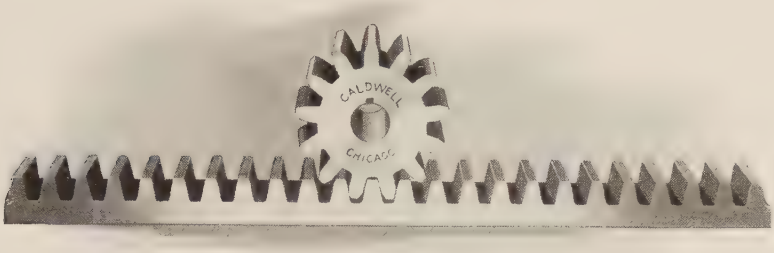


Fig. 45437. (*Landjeugd*)

Spur Racks can be furnished of any length up to the maximum length specified for each pattern. Racks longer than the maximum require special pattern work, for which an additional charge must be made.

Price list below covers rack castings only. Additional charge will be made if base of rack is to be finished, for holes drilled or tapped for bolts, and for lugs or ears on the racks.

Cast Steel Racks can be furnished at additional charge.

For prices of pinions see Spur Gear lists preceding.

Cut Racks, of iron or steel, can be furnished of any style required. Prices on application. For Cut Gear lists, see pages 482 to 502.

Price List, Subject to Discount

Pattern Number	Price Per Foot	CODE WORD	Number of Teeth	Face, Inches	Pitch, Inches	Length
6032	$0.60	Droguetier	32	1¾	¾	2′ 0″
6096	.60	Lanosa	96	1¾	¾	6′ 0″
8036	.80	Droitement	36	2½	1	3′ 0″
8048	.80	Lanosarum	48	2½	1	4′ 0″
9032	1.00	Droll	32	3	1⅛	3′ 0″
9064	1.00	Lanosidad	64	3	1⅛	6′ 0″
10034	1.25	Drollery	34	3½	1¼	3′ 6½″
10039-A	1.10	Lanosos	39	3	1¼	4′ 0¾″
10048	1.25	Lansbreker	48	3½	1¼	5′ 0″
12024	1.75	Dronish	24	4½	1½	3′ 0″
12032	1.75	Lansdrager	32	4½	1½	4′ 0″
12048	1.75	Lansiers	48	4½	1½	6′ 0″
13015	2.25	Lansium	15	5	1⅝	2′ 0⅜″
14036	3.00	Droplet	36	5½	1¾	5′ 3″
16012	3.75	Dropsical	12	6	2	2′ 0″
18016	4.75	Dropsy	16	7	2¼	3′ 0″
24012	8.00	Lansquenet	12	9	3	3′ 0″
40014-A	.....	Drosometer	14	11″ Eff.	5″ Circ.	5′ 10″ Rack
40014-A	.....	Dross	14	11″ Eff.	5″ Circ.	22.28 P. D. Pinion

Machine Molded Double Helical Spur Gears

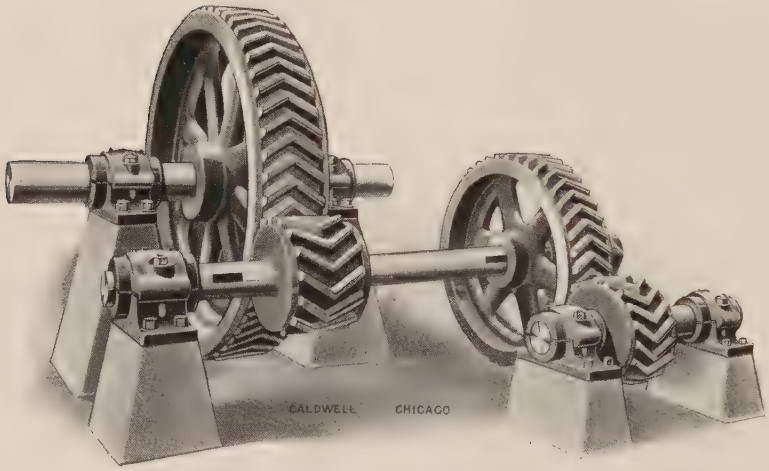


Fig. 45438. (*Landjaeger*)

Double Helical Gears have the advantage of always having at least two pairs of teeth in contact and in many cases three or more pairs. This makes a very quiet running drive and eliminates the shock on the teeth to a large extent.

Because of the double contact, the pitch and shape of the teeth must be very accurate. Machine Molded Double Helical Gears are accurately pitched by the change gears of the molding machine, and the use of a single tooth-block pattern insures correct shape to the teeth.

We are prepared to make Double Helical Gears 1¾-inch pitch and over up to 20 feet diameter, and with any reasonable width of face. Prices will be quoted upon receipt of specifications for the gears or of information as to the horse power to be transmitted, speed of both shafts, character of the load, maximum or minimum distance allowable between shaft centers, etc.

Machine-Molded Double Helical Spur Gears

Fig. 45439. (*Limnanthe*)

The gear shown above was made of semi-steel, for a heavy rolling mill drive. We are prepared to design and furnish drives for heavy work, complete with bearings, shafts, gears, couplings, etc.

Internal Gears

Fig. 45440. (*Landjunker*)

1″ Pitch

Pattern Number	Price Bored with K. S. or S. S.	CODE WORD	Number of Teeth	Pitch Diameter, Inches	Effective Face, Inches
8045	$28.00	Dramatical	45	14.34	2½
8063	37.00	Dramatist	63	20.06	2½
8066	38.00	Draper	66	21.02	2½
8096	54.20	Limosporo	96	30.56	2½
8116	65.00	Drastic	116	36.93	2½
8150	86.50	Limottonia	150	47.75	2½

1 1/8″ Pitch

9066	$48.00	Limouniser	66	23.64	3
9114	75.00	Drawbridge	114	40.83	3

NOTE.—By our Machine Molding Process we can furnish Gears of any kind or dimension with comparatively small pattern expense.

For Cut Gear lists, see pages 482 to 502.

Internal Gears—Continued

1 1/4″ Pitch

Pattern Number	Price Bored with K. S. or S. S.	CODE WORD	Number of Teeth	Pitch Diameter, Inches	Effective Face, Inches
10082	$ 64.00	Drawl	82	32.63	3½
10083	65.00	Drayage	83	33.03	3½
10089	71.00	Drawlish	89	35.42	3½
10090	72.00	Drayman	90	35.82	3½
10095	77.00	Dreader	95	37.81	3½
10100-B	90.00	Dream	100	39.79	4
10118-A	105.00	Dreaming	118	46.96	4
10122-A	109.00	Dreamless	122	48.55	4
10124-A	114.00	Dreary	124	49.34	4

1 3/8″ Pitch

11100	$105.00	Dredger	100	43.78	4

1 1/2″ Pitch

12062	$ 68.00	Largorum	62	29.61	4½
12075	84.00	Drench	75	35.62	4½
12095	112.00	Dresser	95	45.43	4½

1 3/4″ Pitch

14055-A	$ 74.00	Dressing	55	30.65	4
14088-B	140.00	Driblet	88	49.03	6¼
14097-A	140.00	Drilling	97	54.04	5¼

2″ Pitch

16053-A	$100.00	Drinker	53	33.74	5¼
16063-B	110.00	Driveller	63	40.12	4½
16102-B	186.00	Driving	102	64.95	4½

2 1/2″ Pitch

20048-A	$150.00	Drizzly	48	38.22	6½
20064-A	220.00	Drogvete	64	50.95	7¾

NOTE.—For Pinions for above Internal Gears see Spur Gear lists on preceding pages.

NOTE.—By our Machine Molding Process we can furnish Gears of any kind or dimension with comparatively small pattern expense.

For Cut Gear Lists, see pages 482 to 502.

Cast Tooth Bevel Gears

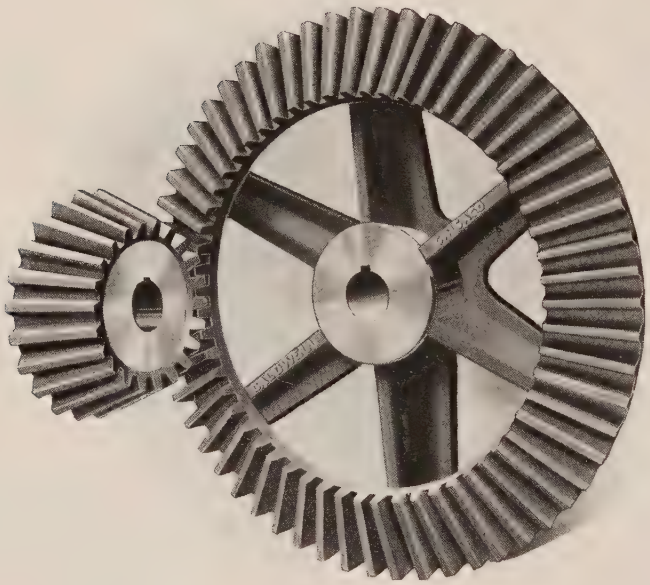


Fig. 45441. (*Landicis*)

Bevel Gears run in pairs only—that is, the pinion of one pair, as given in the following list, will not run with the gear of another pair, at right angles. Bevel Gears for angles other than a right angle are known as Angle Gears. See page 438 for method of figuring Angle Gears, using standard bevel gears, or send us information as to angle desired, speed of shafts, horse power to be transmitted, character of load, etc., and we will make quotation on the proper gears.

For very heavy drives, it is sometimes necessary to make the pinion of cast steel. Prices of cast steel gears on application.

Special Bevel Gears, to replace old or broken gears, can be furnished at comparatively slight pattern expense by the machine molding process. See page 371 for information required.

Miter Gear lists on pages 440 to 448.

In telegraphing, use code for bores as given on page 372.

Cut Tooth Bevel Gear lists on pages 482 to 502.

Cast Tooth Bevel Gears in Pairs

3/4″ Pitch

Pattern Number	Price, Bored With K. S. Or S. S.	CODE WORD	Number of Teeth	Pitch Diam., Inches	Pitch Circum., Feet	Face, Inches	Backing, Inches	Standard Length Through Hub, Inches	Speed Ratio
*23421	$3.30	Eadburge	21	5.03	1.317	1½	¾	1 9/16	
*23413	2.50	Eadwin	13	3.13	.820	1½	1¼	2⅜	1.61
61501-A	5.55	Mostrabila	42	10.04	2.628	2	1⅞	3¼	
61502-A	3.95	Mostratore	28	6.69	1.749	2	¾	2 11/16	1.50
*23434	4.80	Eager	34	8.13	2.128	2	⅞	1⅞	
*23420	3.20	Eagerly	20	4.79	1.254	2	½	2⅛	1.70
62001	4.75	Eagerness	34	8.13	2.128	1¾	1 15/16	2 5/16	
62002	2.80	Eagrass	17	4.08	1.068	1¾	7/16	1⅞	2.00
*23442	5.55	Eanred	42	10.04	2.628	2	1½	2⅛	
*23421-A	3.25	Eapse	21	5.03	1.317	2	⅝	2⅛	2.00
62151	12.30	Earinus	112	26.74	7.000	1¾	2¾	3	
62152	6.15	Earshrift	52	12.42	3.251	1¾	⅞	2⅜	2.15
*23445	6.25	Earthiness	45	10.75	2.814	1¾	1¼	1⅞	
*23415	2.65	Earthling	15	3.61	.945	1¾	¼	1¾	3.00
63941	8.90	Earthly	67	16.00	4.189	1¾	2 7/16	2⅜	
63942	2.80	Earthquake	17	4.08	1.068	1¾	5/16	2	3.94
*23456	7.75	Earthward	56	13.38	3.503	2	2⅜	2⅝	
*23414	2.60	Earthwork	14	3.37	.882	2	⅝	2 7/16	4.00
64261-A	16.00	Limous	128	30.55	8.00	1½	2⅜	2¾	
64262-A	4.40	Limousin	30	7.16	1.88	1½	13/16	2⅛	4.26
67071	11.00	Lancadico	92	21.96	5.750	1¾	4⅝	5	
67072	2.60	Lancamento	13	3.13	.820	1¾	¼	1⅛	7.07

7/8″ Pitch

71871	$5.80	Mostrengo	30	8.37	2.191	2	2	3	
71872	3.00	Motacenes	16	4.48	1.173	2	7/16	2⅛	1.87
73291	9.00	Earthworms	56	15.61	4.089	2	2 7/16	2½	
73292	3.10	Earwig	17	4.76	1.247	2	¼	2 1/16	3.29

1″ Pitch

81221	$4.50	Earwort	22	7.03	1.840	2½	15/16	2 3/16	
81222	3.95	Easeful	18	5.76	1.508	2½	⅝	2 7/16	1.22
81331	8.50	Easels	48	15.29	4.003	2½	2 1/16	3¼	
81332	6.25	Easily	36	11.47	3.003	2½	1 5/16	3⅜	1.33
81371-A	4.50	Easiness	22	7.03	1.840	2	15/16	1 15/16	
81372-A	3.25	Easium	16	5.13	1.345	2	¾	2¼	1.37
81501	8.50	Easterling	48	15.29	4.003	2½	2 3/16	3¼	
81502	5.70	Easterly	32	10.20	2.670	2½	1⅛	3 1/16	1.50
81561	5.90	Motamus	28	8.93	2.338	2½	2 5/16	3¼	
81562	3.65	Moterello	18	5.76	1.508	2½	1	2 13/16	1.56
81741	7.52	Eastward	40	12.75	3.338	2½	2¼	3 3/16	
81742	4.40	Eatable	23	7.34	1 922	2½	11/16	2¾	1.74

NOTE.—By our Machine Molding Process we can furnish Gears of any kind or dimension with comparatively small pattern expense.

For Cut Gear lists, see pages 482 to 502.

Cast Tooth Bevel Gears in Pairs

1″ Pitch—Continued

Cast Iron Bevel Gears 1″ pitch, 2½″ face, under ordinary conditions, will transmit 2.14 H. P. at 100 feet per minute on the pitch line, 3.22 H. P. at 200 feet, 3.96 H. P. at 300 feet, 5.70 H. P. at 500 feet, 7.95 H. P. at 750 feet, 9.60 H. P. at 1,000 feet, 11.16 H. P. at 1,250 feet.

Small pinions running with large gears should be cast steel for full load.

Pattern Number	Price, Bored With K. S. Or S. S.	CODE WORD	Number of Teeth	Pitch Diam., Inches	Pitch Circum., Feet	Face, Inches	Backing, Inches	Standard Length Through Hub, Inches	Speed Ratio
81771-A	$7.10	Eatage	39	12.43	3.254	2	2 1/16	2 11/16	
81772-A	4.20	Ebalacon	22	7.03	1.840	2	11/16	2 1/8	1.77
81921	8.85	Ebalette	50	15.92	4.169	2½	2 9/16	3 3/8	
81922	4.80	Ebanista	26	8.30	2.173	2½	11/16	2 9/16	1.92
82001	6.65	Ebanizar	36	11.47	3.003	2½	2 5/8	3½	
82002	3.65	Ebankers	18	5.76	1.508	2½	½	2 5/8	2.00
82005	5.70	Motilaron	32	10.20	2.670	2½	1¾	2¾	
82006	3.25	Motivone	16	5.13	1.345	2½	3/8	2 5/8	2.00
*2148	8.50	Lancames	48	15.29	4.003	2½	2 1/8	3¼	
*2124	4.60	Lancarote	24	7.66	2.005	2½	1 1/16	3¼	2.00
82007	8.50	Ebano	48	15.29	4.003	2½	2 7/16	3¼	
82008	4.60	Ebaque	24	7.66	2.005	2½	5/8	2¾	2.00
82009	11.50	Motolita	60	19.11	5.003	2½	2¼	2 5/8	
820010	6.30	Motoneria	30	9.57	2.505	2½	½	2 3/8	2.00
820011-A	4.40	Limoussant	24	7.66	2.005	1¾	2	2½	
820012-A	2.70	Limpadura	12	3.86	1.011	1¾	1 9/16	3	2.00
82111	7.45	Ebarbement	38	12.11	3.170	2½	2 5/16	3 1/16	
82112	3.65	Ebarbeuse	18	5.76	1.508	2½	5/8	2¾	2.11
82201-A	6.10	Limpamente	33	10.52	2.754	1¾	2¼	2¾	
82202-A	3.00	Limpibais	15	4.81	1.260	1¾	7/8	2¼	2.20
82371-A	8.45	Ebarboir	45	14.34	3.753	2¼	2 3/8	3 1/8	
82372-A	3.75	Ebattons	19	6.08	1.592	2¼	5/8	2 9/16	2.37
82501	6.90	Ebattriez	35	11.16	2.922	2½	2½	3 1/8	
82502	3.15	Ebattront	14	4.49	1.175	2½	½	2 5/8	2.50
*2142	8.10	Ebattu	42	13.38	3.504	2½	2¼	3	
*2115	3.25	Ebauchage	15	4.81	1.260	2½	3/8	2 5/8	2.80
*2148-A	9.05	Lancasses	48	15.29	4.003	2½	2 1/16	3 5/8	
*2116-A	3.35	Lanceadas	16	5.13	1.345	2½	9/16	2¾	3.00
83001	9.05	Ebaucheras	48	15.29	4.003	2½	2 11/16	3 1/8	
83002	3.35	Ebauchiez	16	5.13	1.345	2½	9/16	2¾	3.00
83003	7.10	Ebauchoir	36	11.47	3.003	2½	2 13/16	3 5/16	
83004	2.85	Ebbeanker	12	3.86	1.011	2½	3/8	2 5/8	3.00
83101	12.05	Ebbeboom	62	19.74	5.169	2½	2¾	3 1/16	
83102	3.90	Ebbene	20	6.39	1.673	2½	½	2 13/16	3.10
83331	8.20	Ebbenhout	40	12.75	3.338	2½	2¾	3 1/8	
83332	2.85	Ebbestrom	12	3.86	1.011	2½	3/8	2 5/8	3.33
83461	9.10	Ebbezeit	45	14.34	3.753	2½	2 13/16	3 1/8	
83462	2.95	Ebbing	13	4.18	1.094	2½	½	2 13/16	3.46
83861	10.70	Ebbrezza	54	17.20	4.501	2½	3	3¼	
83862	3.15	Ebbrieta	14	4.49	1.175	2½	7/16	2 5/8	3.86
84571	13.25	Ebdomada	64	20.38	5.335	2½	3 5/16	3 3/8	
84572	3.15	Ebelians	14	4.49	1.175	2½	7/16	2 13/16	4.57
84871	15.75	Ebenaceo	78	24.84	6.506	2½	3 9/16	3½	
84872	3.35	Ebenastre	16	5.13	1.345	2½	7/16	2¾	4.87

NOTE.—By our Machine Molding Process we can furnish Gears of any kind or dimension with comparatively small pattern expense.

For Cut Gear lists, see pages 482 to 502.

Cast Tooth Bevel Gears in Pairs

1 1/8″ Pitch

Cast Iron Bevel Gears 1⅛″ pitch, 3″ face, under ordinary conditions, will transmit 2.89 H. P. at 100 feet per minute on the pitch line, 4.34 H. P. at 200 feet, 5.34 H. P. at 300 feet, 7.69 H. P. at 500 feet, 10.73 H. P. at 750 feet, 12.97 H. P. at 1,000 feet, 15.07 H. P. at 1,250 feet.

Small pinions running with large gears should be cast steel for full load.

Pattern Number	Price, Bored With K. S. Or S. S.	CODE WORD	Number of Teeth	Pitch Diam., Inches	Pitch Circum., Feet	Face, Inches	Backing Inches	Standard Length Through Hub, Inches	Speed Ratio
91133	$ 8.95	Ebenbild	34	12.19	3.193	3	2	3½	
91134	7.45	Ebeneous	30	10.76	2.818	3	1 1/16	3⅜	1.13
91291	7.40	Ebenezer	27	9.69	2.537	3	1 13/16	3¼	
91292	5.65	Ebenfalls	21	7.55	1.976	3	⅞	3 1/16	1.29
91381	14.10	Ebenheit	58	20.78	5.438	3	2½	3⅞	
91382	9.90	Ebenier	42	15.05	3.942	3	1½	3¾	1.38
91401	16.70	Ebenistes	70	25.07	6.566	3	2 13/16	4 1/16	
91402	11.50	Ebenmass	50	17.92	4.690	3	1 11/16	3⅞	1.40
91761	8.00	Ebenoxyle	30	10.76	2.818	3	2⅜	3⅜	
91762	4.80	Ebenrecht	17	6.12	1.602	3	¾	3 1/16	1.76
92101	11.35	Ebensohle	42	15.05	3.942	3	2 11/16	3⅝	
92102	5.40	Ebenspiel	20	7.19	1.882	3	11/16	3¼	2.10
92103-A	16.30	Ebenuz	63	22.57	5.907	3½	3 5/16	4⅜	
92104-A	7.45	Ebenwage	30	10.76	2.818	3½	1	3 1/16	2.10
92271	13.25	Eberesche	50	17.92	4.690	3	2 15/16	3¾	
92272	5.85	Ebergement	22	7.90	2.070	3	⅝	3⅛	2.27
92371	10.45	Eberhard	38	13.62	3.566	3	2 11/16	3½	
92372	4.55	Eberhirsch	16	5.77	1.511	3	⅝	3¼	2.37
93001	18.30	Eberulf	72	25.79	6.754	3	3 9/16	4	
93002	6.30	Ebetazione	24	8.62	2.257	3	9/16	3⅝	3.00
93441	16.05	Ebetement	62	22.21	5.813	3	3 9/16	3⅞	
93442	5.05	Ebeto	18	6.48	1.697	3	9/16	3 3/16	3.44
93601	19.55	Ebeurrer	72	25.79	6.754	3	3⅞	4⅛	
93602	5.40	Ebiasaph	20	7.19	1.882	3	9/16	3¼	3.60
93851	38.50	Ebionisme	100	35.82	9.39	3	4 7/16	4½	
93852	6.70	Ebiscum	26	9.33	2.444	3	⅝	3 5/16	3.85
94201	23.85	Ebisele	84	30.08	7.885	3	4 3/16	4¼	
94202	5.40	Eblana	20	7.19	1.882	3	½	3 3/16	4.20
94371	20.30	Eblandior	70	25.07	6.566	3	3⅝	3¾	
94372	4.55	Eblanditus	16	5.77	1.511	3	7/16	3¼	4.37
95001-A	29.40	Eblanine	100	35.82	9.39	3½	4 3/16	4¼	
95002-A	5.65	Eblouimes	20	7.19	1.882	3½	7/16	3 11/16	5.00
95401	40.00	Eblouir	108	38.68	10.14	3	4 15/16	4 11/16	
95402	5.40	Eblouiras	20	7.19	1.882	3	9/16	3 5/16	5.40
95541	47.00	Eblouiront	122	43.69	11.44	3	5¼	4 15/16	
95542	5.85	Eblouisses	22	7.90	2.070	3	7/16	3 3/16	5.54
96001	30.00	Eboda	84	30.08	7.885	3	4⅛	4 1/16	
96002	4.20	Ebonist	14	5.06	1.325	3	7/16	3 5/16	6.00
96121	38.00	Ebonite	98	35.10	9.202	3	4½	4 5/16	
96122	4.55	Ebonized	16	5.77	1.511	3	7/16	3¼	6.12
98371-A	53.00	Limpiado	134	47.98	12.56	2½	5¾	5¼	
98372-A	4.30	Limpiadora	16	5.77	1.511	2½	½	2⅞	8.37

NOTE.—By our Machine Molding Process we can furnish Gears of any kind or dimension with comparatively small pattern expense.

For Cut Gear lists, see pages 482 to 502.

Cast Tooth Bevel Gears in Pairs

1 1/4" Pitch

Cast Iron Bevel Gears 1¼" pitch, 3½" face, under ordinary conditions, will transmit 3.75 H. P. at 100 feet per minute on the pitch line, 5.63 H. P. at 200 feet, 6.93 H. P. at 300 feet, 9.96 H. P. at 500 feet, 13.91 H. P. at 750 feet, 16.81 H. P. at 1,000 feet, 19.54 H. P. at 1,250 feet.

Small pinions running with large gears should be cast steel for full load.

Pattern Number	Price, Bored With K. S. Or S. S.	CODE WORD	Number of Teeth	Pitch Diam., Inches	Pitch Circum., Feet	Face, Inches	Backing, Inches	Standard Length Through Hub, Inches	Speed Ratio
101081	$ 9.00	Eboracum	26	10.37	2.72	3½	1 13/16	4	
101082	7.90	Eborense	24	9.58	2.50	3½	1 9/16	4	1.08
101141	15.75	Eborgnage	50	19.91	5.21	3½	2½	4 3/8	
101142	13.05	Eboribus	44	17.52	4.59	3½	2	4 5/16	1.14
101231	34.00	Ebosia	74	29.45	7.71	3½	3	4 11/16	
101232	27.50	Ebouage	60	23.88	6.25	3½	2 3/16	4 9/16	1.23
101331-A	24.00	Ebouffer	48	19.11	5.00	3½	2 5/8	4 5/16	
101332-A	17.00	Ebouiger	36	14.34	3.75	3½	1 11/16	4¼	1.33
101333-A	16.50	Lanceado	32	12.75	3.34	3¼	2	4¾	
101334-A	7.60	Lancedora	24	9.58	2.50	3¼	1⅛	3	1.33
101361-A	8.50	Motrego	26	10.37	2.72	3	1¾	3 1/16	
101362-A	6.00	Motterig	19	7.59	1.99	3	¾	2⅞	1.36
101451	17.95	Eboulait	58	23.09	6.04	3½	2 15/16	4 7/16	
101452	12.05	Eboulement	40	15.93	4.17	3½	1 9/16	4 3/16	1.45
101461-A	6.65	Ebulo	19	7.59	1.99	2¼	2	2⅞	
101462-A	4.65	Eburacum	13	5.22	1.37	2¼	11/16	2¼	1.46
101471	15.75	Ebouleront	50	19.91	5.21	3½	2 13/16	4 5/16	
101472	10.50	Ebouleux	34	13.55	3.54	3½	1 7/16	4⅛	1.47
101581	27.50	Ebouqueter	60	23.88	6.25	3½	3⅛	4½	
101582	17.00	Ebouriffe	38	15.14	3.96	3½	1½	4¼	1.58
101671	27.50	Ebouisne	60	23.88	6.25	3½	3 3/16	4½	
101672	16.00	Ebouter	36	14.34	3.75	3½	1 7/16	4¼	1.67
101751	21.15	Ebouture	70	27.86	7.29	3½	3⅜	4 9/16	
101752	12.05	Ebraiche	40	15.93	4.17	3½	1⅜	4¼	1.75
101753	11.60	Ebraico	35	13.95	3.65	3½	2 9/16	3¾	
101754	6.85	Ebraismo	20	7.99	2.09	3½	13/16	3½	1.75
*21¼60	18.10	Ebraisoir	60	23.88	6.25	3	2¾	3⅞	
*21¼31	9.60	Ebraizzano	31	12.35	3.23	3	1¾	4½	1.93
101951-A	17.00	Lanceamos	43	17.13	4.48	3	3 1/16	4	
101952-A	7.10	Lanceandum	22	8.78	2.29	3	⅞	3¼	1.95
*21¼40	12.90	Ebraizzare	40	15.93	4.17	3	2½	4	
*21¼20	6.70	Ebraizzava	20	7.96	2.09	3	⅞	3 11/16	2.00
102005	11.95	Ebraizzo	36	14.34	3.75	3½	2¾	4 1/16	
102006	6.30	Ebrancadas	18	7.20	1.88	3½	¾	3 9/16	2.00
102007	18.45	Ebrancado	60	23.88	6.25	3½	3 5/16	4⅜	
102008	9.55	Ebranchait	30	11.96	3.13	3½	1⅛	4⅛	2.00
102009-A	9.50	Limpiamos	30	11.96	3.13	3	1	3¾	
102010-A	5.40	Limpiarian	15	6.01	1.57	3	⅜	2⅝	2.00

NOTE.—By our Machine Molding Process we can furnish Gears of any kind or dimension with comparatively small pattern expense.

For Cut Gear lists, see pages 482 to 502.

Cast Tooth Bevel Gears in Pairs

1 1-4″ Pitch—Continued

For Horse Power transmitted by Bevel Gears 1¼″ pitch, see page 414.

Pattern Number	Price, Bored With K. S. Or S. S.	CODE WORD	Number of Teeth	Pitch Diam., Inches	Pitch Circum., Feet	Face, Inches	Backing, Inches	Standard Length Through Hub, Inches	Speed Ratio
102071-A	$ 9.00	Moucarrice	27	10.77	2.82	3	1½	4	
102072-A	4.75	Mouillage	13	5.22	1.37	3	¾	3½	2.07
102501	41.25	Ebranchiez	90	35.82	9.39	3½	4⅜	4 15/16	
102502	11.10	Ebranchons	36	14.34	3.75	3½	1⅞	4¼	2.50
102503	19.80	Ebranlait	60	23.88	6.25	3½	3¾	4½	
102504	7.90	Ebranler	24	9.58	2.50	3½	1⅛	4 1/16	2.50
102601	17.50	Ebranliez	52	20.70	5.42	3½	3⅛	3⅞	
102602	6.85	Ebranlions	20	7.99	2.09	3½	⅝	3⅝	2.60
102861	13.90	Ebrasure	40	15.93	4.17	3½	3⅜	4⅛	
102862	5.20	Ebreche	14	5.62	1.47	3½	⅝	3 13/16	2.86
*21¼74	23.70	Ebreneur	74	29.45	7.71	3¼	3	4⅝	
*21¼25	8.00	Ebria	25	9.97	2.61	3¼	¾	3 11/16	2.96
103001	18.15	Ebriacus	54	21.50	5.63	3½	3⅜	3 15/16	
103002	6.30	Ebriation	18	7.20	1.88	3½	⅝	3 13/16	3.00
103003-A	17.50	Lanceareis	45	17.92	4.69	3	3	3½	
103004-A	5.40	Lancearios	15	6.01	1.57	3	⅝	3¼	3.00
103231	40.00	Ebriativo	84	33.43	8.76	3½	4 9/16	4¾	
103232	8.40	Ebriato	26	10.37	2.72	3½	9/16	3⅝	3.23
103331	21.15	Ebriavisti	60	23.88	6.25	3½	3⅞	4¼	
103332	6.30	Ebriedad	18	7.20	1.88	3½	9/16	3 11/16	3.33
103461	41.25	Ebrietas	90	35.82	9.39	3½	4 11/16	5⅜	
103462	8.40	Ebriety	26	10.37	2.72	3½	⅞	4	3.46
103601-A	12.80	Ebrieux	36	14.34	3.75	2½	3⅜	3 9/16	
103602-A	3.75	Ebrillade	10	4.04	1.06	2½	9/16	2⅞	3.60
104001	24.90	Ebriosa	72	28.66	7.50	3½	4 3/16	4 7/16	
104002	6.30	Ebriosidad	18	7.20	1.88	3½	9/16	3 15/16	4.00
104003	17.35	Ebriositas	48	19.11	5.00	3½	3⅝	4	
104004	4.60	Ebrious	12	4.83	1.26	3½	⅜	3 11/16	4.00
*21¼60-A	20.60	Ebrodunum	60	23.88	6.25	3	2¾	3 11/16	
*21¼15-A	5.25	Ebroin	15	6.01	1.57	3	½	3⅝	4.00
104221-A	40.00	Ebromagi	76	30.25	7.92	4	4½	5⅛	
104222-A	6.60	Ebromagus	18	7.20	1.88	4	½	4 5/16	4.22
104441-A	72.50	Ebrondeur	142	56.50	14.79	4	4 7/16	4⅝	
104442-A	16.50	Ebrosser	32	12.75	3.34	4	11/16	4 9/16	4.44
104551-A	43.50	Ebrouement	82	32.63	8.55	4	4 11/16	4⅞	
104552-A	6.60	Ebruiter	18	7.20	1.88	4	½	4 5/16	4.55
104581-A	23.50	Ebruiteras	55	21.90	5.73	4	3 11/16	4¼	
104582-A	4.85	Ebruitiez	12	4.83	1.26	4	7/16	4⅜	4.58
104631	38.00	Ebruitons	74	29.45	7.71	3½	4¼	4⅜	
104632	5.70	Ebrulpho	16	6.41	1.68	3½	7/16	3 11/16	4.63

NOTE.—By our Machine Molding Process we can furnish Gears of any kind or dimension with comparatively small pattern expense.

For Cut Gear lists, see pages 482 to 502.

Cast Tooth Bevel Gears in Pairs

1 1-4″ Pitch—Continued

For Horse Power transmitted by Bevel Gears 1¼″ pitch, see page 414.

Pattern Number	Price, Bored With K. S. Or S. S.	CODE WORD	Number of Teeth	Pitch Diam., Inches	Pitch Circum., Feet	Face, Inches	Backing, Inches	Standard Length Through Hub, Inches	Speed Ratio
105001	$41.25	Ebucheter	90	35.82	9.39	3½	4 11/16	4 11/16	
105002	6.30	Ebudae	18	7.20	1.88	3½	7/16	3 11/16	5.00
105251	40.00	Limpiaunas	84	33.43	8.76	3½	4 9/16	4½	
105252	5.70	Limpida	16	6.41	1.68	3½	7/16	4⅛	5.25
105831-A	45.00	Eburatus	70	28.00	7.29	3½	5	4½	
105832-A	4.85	Eburinorum	12	4.80	1.26	3½	7/16	3 13/16	5.83
105891	47.50	Ebulinus	106	42.19	11.04	3½	4¾	4 9/16	
105892	6.30	Ebulliate	18	7.20	1.88	3½	⅜	3¾	5.89
106071-A	42.00	Lancearon	91	36.22	9.49	3	4¾	4½	
106072-A	5.40	Lanceavero	15	6.01	1.57	3	½	3 7/16	6.07
107001-A	36.50	Ebulliency	70	27.86	7.29	3	4¼	4⅛	
107002-A	4.00	Ebullition	10	4.04	1.06	3	5/16	3¼	7.00

1 3-8″ Pitch

Cast Iron Bevel Gears 1⅜″ pitch, 3½″ face, under ordinary conditions, will transmit 4.13 H. P. at 100 feet per minute on the pitch line, 6.20 H. P. at 200 feet, 7.62 H. P. at 300 feet, 10.96 H. P. at 500 feet, 15.30 H. P. at 750 feet, 18.50 H. P. at 1,000 feet. 21.50 H. P. at 1,250 feet.

Small pinions running with large gears should be cast steel for full load.

111181	$10.70	Eburiphore	26	11.40	2.98	3½	2	3¾	
111182	8.70	Eburnation	22	9.66	2.53	3½	1½	3¾	1.18
111251	29.00	Eburnean	50	21.90	5.73	3½	2 11/16	4⅜	
111252	24.00	Eburneos	40	17.51	4.59	3½	1 15/16	4 5/16	1.25
111471	18.65	Eburobriga	50	21.90	5.73	3½	2 15/16	4⅜	
111472	12.40	Eburon	34	14.90	3.90	3½	1⅝	4¼	1.47
111701	24.40	Eburones	68	29.77	7.80	3½	3⅝	4¾	
111702	14.25	Eburovices	40	17.51	4.59	3½	1 9/16	4 5/16	1.70
111821	15.35	Ebusus	40	17.51	4.59	3½	3	4 3/16	
111822	8.70	Ecart	22	9.66	2.53	3½	⅞	3	1.82
112331	16.00	Ecartais	42	18.40	4.82	3½	3 5/16	4 3/16	
112332	7.50	Ecartasses	18	7.91	2.07	3½	1 1/16	3 15/16	2.33
112501	18.65	Ecartelait	50	21.90	5.73	3½	3⅜	4⅛	
112502	8.10	Ecarteler	20	8.79	2.30	3½	⅞	3¾	2.50
116051	56.50	Lancella	109	47.71	12.50	3½	6	9	
116052	7.50	Lancelot	18	7.91	2.07	3½	⅜	3½	6.05

NOTE.—By our Machine Molding Process we can furnish Gears of any kind or dimension with comparatively small pattern expense.

For Cut Gear lists, see pages 482 to 502.

Cast Tooth Bevel Gears in Pairs

1 1-2″ Pitch

Cast Iron Bevel Gears 1½″ pitch, 4″ face, under ordinary conditions, will transmit 5.14 H. P. at 100 feet per minute on the pitch line, 7.73 H. P. at 200 feet, 9.51 H. P. at 300 feet, 13.67 H. P. at 500 feet, 19.08 H. P. at 750 feet, 23.05 H. P. at 1,000 feet, 26.80 H. P. at 1,250 feet.

Small pinions running with large gears should be cast steel for full load.

Pattern Number	Price, Bored With K. S. Or S. S.	CODE WORD	Number of Teeth	Pitch Diam., Inches	Pitch Circum., Feet	Face, Inches	Backing, Inches	Standard Length Through Hub, Inches	Speed Ratio
121081	$30.00	Ecarteur	54	25.80	6.75	4	2 13/16	4 15/16	
121082	22.40	Ecartons	50	23.89	6.25	4	2 3/8	4 7/8	1.08
121083-A	22.00	Limpidamus	26	12.44	3.26	5 1/2	2	5 3/8	
121084-A	20.00	Limpidanda	24	11.49	3.01	5 1/2	2	5 3/4	1.08
121151	22.50	Eccanthis	46	21.98	5.76	4	2 3/4	4 7/8	
121152	18.55	Eccedemmo	40	19.12	5.01	4	2 3/16	4 3/4	1.15
121231	30.00	Eccedendo	54	25.80	6.75	4	3	4 7/8	
121232	25.10	Eccedenza	44	21.03	5.51	4	2 3/16	4 7/8	1.23
121251	15.65	Eccedessi	30	14.35	3.76	4	2 9/16	4 7/16	
121252	12.15	Eccedevamo	24	11.49	3.01	4	1 1/8	3 3/4	1.25
121281	22.50	Eccedevate	46	21.98	5.76	4	2 13/16	4 3/4	
121282	16.95	Eccediate	36	17.21	4.50	4	1 15/16	4 3/4	1.28
121283	22.00	Lancement	41	19.60	5.13	4	2 5/8	5	
121284	16.00	Lanceros	32	15.30	4.00	4	2	4 1/4	1.28
121321	32.45	Eccedo	58	27.71	7.25	4	3 3/16	5	
121322	25.10	Eccehomo	44	21.03	5.51	4	2 3/4	4 3/4	1.32
121331	31.20	Eccentric	56	26.75	7.00	4	3 3/16	4 15/16	
121332	19.30	Eccentros	42	20.07	5.26	4	2 1/16	4 7/8	1.33
121391	24.20	Eccessive	50	23.89	6.25	4	3 1/8	4 7/8	
121392	16.95	Eccettuano	36	17.21	4.50	4	1 7/8	4 3/4	1.39
121431	20.00	Eccettuare	40	19.12	5.01	4	2 3/4	4 9/16	
121432	13.70	Eccheuma	28	13.40	3.51	4	1 3/4	4 1/2	1.43
121471	26.70	Eccillum	56	26.75	7.00	4	3 1/4	4 7/8	
121472	17.80	Eccitammo	38	18.16	4.75	4	1 3/4	4 3/4	1.47
121501	23.30	Eccitando	36	17.21	4.50	4	2 3/4	4 1/2	
121502	15.00	Eccitarla	24	11.49	3.01	4	1 7/16	4 5/16	1.50
121521	39.30	Eccitata	76	36.30	9.50	4	3 3/4	5 1/4	
121522	27.40	Eccitativo	50	23.89	6.25	4	1 15/16	4 7/8	1.52
121531-A	15.00	Limpidant	26	12.44	3.26	3 1/2	3 3/16	4 3/4	
121532-A	9.00	Limpidatum	17	8.16	2.14	3 1/2	1	3 11/16	1.53
121551	34.00	Eccitarono	62	29.61	7.75	4	3 1/2	5	
121552	23.55	Eccitassi	40	19.12	5.01	4	1 3/4	4 3/4	1.55
121641	18.30	Eccitatore	36	17.21	4.50	4	3	4 5/8	
121642	11.30	Eccitavamo	22	10.54	2.76	4	1 3/8	4 3/8	1.64
121651	31.70	Eccitavate	56	26.75	7.00	4	3 1/2	4 7/8	
121652	16.15	Eccitolla	34	16.26	4.26	4	1 1/2	4 11/16	1.65

NOTE.—By our Machine Molding Process we can furnish Gears of any kind or dimension with comparatively small pattern expense.

For Cut Gear lists, see pages 482 to 502.

Cast Tooth Bevel Gears in Pairs
1 1-2″ Pitch—Continued

For Horse Power transmitted by Bevel Gears 1½″ pitch, see page 417.

Pattern Number	Price, Bored With K. S. Or S. S.	CODE WORD	Number of Teeth	Pitch Diam., Inches	Pitch Circum., Feet	Face, Inches	Backing, Inches	Standard Length Through Hub, Inches	Speed Ratio
121661	$23.40	Ecclesia	48	22.93	6.01	4	3 3/8	4 7/8	
121662	14.15	Ecclesians	29	13.87	3.63	4	1 7/16	4 3/8	1.66
121691	21.70	Ecclesiola	44	21.03	5.51	4	3	4 1/2	
121692	13.00	Ecclinuse	26	12.44	3.26	4	1 1/2	4 1/2	1.69
121731	30.00	Eccopeur	52	24.84	6.50	4	3 1/2	4 7/8	
121732	19.55	Echacantos	30	14.35	3.76	4	1 3/8	4 3/8	1.73
121941	29.00	Echacorvos	62	29.61	7.75	4	3 7/8	5 1/16	
121942	15.40	Echadico	32	15.30	4.00	4	1 1/4	4 9/16	1.94
121951	20.45	Echadores	41	19.60	5.13	4	3 3/8	4 5/8	
121952	10.90	Echaduras	21	10.06	2.63	4	7/8	4 1/4	1.95
122001	18.30	Echafaud	36	17.21	4.50	4	3 5/16	4 5/8	
122002	9.70	Echafauder	18	8.64	2.26	4	13/16	4 1/16	2.00
122003	30.00	Echaillon	52	24.84	6.50	4	3 5/8	4 3/4	
122004	13.00	Echalas	26	12.44	3.26	4	1 1/4	4 5/8	2.00
122005	24.20	Echalasser	50	23.89	6.25	4	3 5/8	4 13/16	
122006	12.60	Echamiento	25	11.97	3.13	4	1 1/4	4 3/8	2.00
122007-A	20.00	Echamiosum	30	14.35	3.76	3 1/2	1 5/8	4	
122008-A	8.00	Echamosis	15	7.21	1.89	3 1/2	1 1/4	4	2.00
*21½50-A	24.65	Echampeau	50	23.89	6.25	4 1/2	2 5/16	4 1/16	
*21½25-A	12.95	Echampi	25	11.97	3.13	4 1/2	1 5/16	4 7/16	2.00
*21½64	29.85	Echamplure	64	30.57	8.00	4	3	5 1/8	
*21½32	15.40	Echampum	32	15.30	4.00	4	1 1/4	5 1/4	2.00
*21½33	18.00	Echancrais	33	15.78	4.13	4	2 1/4	3 3/4	
*21½16-A	8.70	Echancrant	16	7.69	2.02	4	2 1/4	5 1/2	2.06
122191	19.25	Echando	35	16.73	4.38	4	3 5/16	4 9/16	
122192	8.70	Echandole	16	7.69	2.02	4	3/4	4 1/8	2.19
12½2251A	19.20	Ecrabouir	36	18.00	4.50	3	3 1/2	4 3/8	
12½2252A	8.70	Ecriteau	16	8.00	2.02	3	11/16	3 3/16	2.25
122291	37.00	Echanges	64	30.57	8.00	4	4 3/16	5 1/16	
122292	13.85	Echangicz	28	13.40	3.51	4	1 7/16	4 7/16	2.29
122331-A	21.00	Echura	42	20.07	5.26	3 1/2	3 5/8	4 3/8	
122332-A	9.60	Eckard	18	8.64	2.26	3 1/2	13/16	3 7/8	2.33
122431	38.75	Eckehard	68	32.48	8.50	4	4 3/8	5 1/8	
122432	13.70	Eckelhaft	28	13.40	3.51	4	1 1/4	4 1/2	2.43
122501	26.00	Eckeln	50	23.89	6.25	4	3 15/16	4 3/4	
122502	10.55	Eckenhalm	20	9.59	2.51	4	1	4 3/8	2.50
122551-A	38.00	Limpidetis	69	32.95	8.62	3 1/2	4 1/2	5	
122552-A	13.00	Limpidity	27	12.92	3.38	3 1/2	1	5 3/4	2.55

NOTE.—By our Machine Molding Process we can furnish Gears of any kind or dimension with comparatively small pattern expense.

For Cut Gear lists, see pages 482 to 502.

Cast Tooth Bevel Gears in Pairs

1 1-2″ Pitch—Continued

For Horse Power transmitted by Bevel Gears 1½″ pitch, see page 417.

Pattern Number	Price, Bored With K. S. Or S. S.	CODE WORD	Number of Teeth	Pitch Diam., Inches	Pitch Circum., Feet	Face, Inches	Backing, Inches	Standard Length Through Hub, Inches	Speed Ratio
122941	$29.65	Moulinames	50	23.89	6.25	4	3 7/8	4 3/4	
122942	9.15	Mouliniren	17	8.16	2.14	4	15/16	4 1/4	2.94
*21½45	23.75	Eckenzahl	45	21.49	5.63	4	2 1/4	3 3/4	
*21½15	8.35	Eckerganz	15	7.16	1.89	4	5/8	4 7/16	3.00
123001	27.75	Eckermast	54	25.80	6.75	4	4 3/16	4 3/4	
123002	9.70	Eckhaus	18	8.64	2.26	4	11/16	4 3/16	3.00
123003	30.35	Eckkegel	60	28.66	7.50	4	4½	5	
123004	10.55	Ecklade	20	9.59	2.51	4	11/16	4 1/8	3.00
*21½75	40.65	Ecklonie	75	35.82	9.37	5	5	6 5/8	
*21½25	13.20	Eckplatz	25	11.97	3.13	5	1	5 5/16	3.00
123005	37.80	Ecksaal	78	37.26	9.75	4	4 3/4	5 1/8	
123006	13.00	Eckschuh	26	12.44	3.26	4	1	4 5/8	3.00
123007-A	37.20	Eckstamm	66	31.52	8.25	3½	4½	4 13/16	
123008-A	11.05	Eckstein	22	10.54	2.76	3½	7/8	3 7/8	3.00
123009-A	25.50	Lanceteira	51	24.37	6.37	3½	3 7/8	4 1/4	
1230010-A	8.80	Lancetjes	17	8.16	2.14	3½	3/4	3 3/4	3.00
1230011	59.10	Limpidness	102	48.71	12.75	4	4 9/16	5	
1230012	19.00	Limpidorum	34	16.26	4.26	4	1	4 11/16	3.00
123081-A	21.00	Eckthor	40	19.12	5.01	3	3½	3 3/4	
123082-A	7.35	Ecktisch	13	6.27	1.64	3	11/16	3 3/8	3.08
123371	29.70	Limpieis	54	25.80	6.75	4	4 5/8	5	
123372	8.70	Limpieza	16	7.69	2.02	4	3/4	4 3/8	3.37
123751	34.65	Lancettano	60	28.66	7.50	4	3½	3 3/4	
123752	8.70	Lancettava	16	7.69	2.02	4	½	4	3.75
123781	36.10	Eckzahn	68	32.48	8.50	4	4 15/16	5 1/8	
123782	9.70	Eccole	18	8.64	2.26	4	5/8	4 3/8	3.78
123861	29.70	Ecoliers	54	25.80	6.75	4	4½	4 3/4	
123862	7.90	Economat	14	6.74	1.77	4	5/8	4 5/8	3.86
124003	36.10	Economicas	68	32.48	8.50	4	4 7/8	5	
124004	9.20	Economico	17	8.16	2.14	4	3/8	4 1/8	4.00
124005	34.25	Economique	64	30.57	8.00	4	4 11/16	4 7/8	
124006	8.70	Economist	16	7.69	2.02	4	9/16	4 3/16	4.00
124171	57.85	Economizar	100	47.75	12.50	4	5 5/8	5 9/16	
124172	15.00	Economize	24	11.49	3.01	4	7/8	4½	4.17
124291	34.65	Ecoquer	60	28.66	7.50	4	4 3/4	4 7/8	
124292	7.90	Ecorcage	14	6.74	1.77	4	½	4 1/8	4.29
124451	56.85	Ecorchant	98	46.80	12.25	4	6	5 7/8	
124452	11.30	Ecorchiez	22	10.54	2.76	4	5/8	4 1/4	4.45

NOTE.—By our Machine Molding Process we can furnish Gears of any kind or dimension with comparatively small pattern expense.

For Cut Gear lists, see pages 482 to 502.

Cast Tooth Bevel Gears in Pairs

1 1-2″ Pitch—Continued

For Horse Power transmitted by Bevel Gears 1½″ pitch, see page 417.

Pattern Number	Price, Bored With K. S. Or S. S.	CODE WORD	Number of Teeth	Pitch Diam., Inches	Pitch Circum., Feet	Face, Inches	Backing, Inches	Standard Length Through Hub, Inches	Speed Ratio
124881	$37.80	Limpingly	78	37.26	9.75	4	5½	5½	
124882	8.70	Limpion	16	7.69	2.02	4	⅜	4	4.88
125101	59.10	Limpitude	102	48.71	12.75	4	6¼	6	
125102	10.55	Linabris	20	9.59	2.51	4	1	4½	5.10
125141	45.35	Ecorcons	72	34.39	9.00	4	4 15/16	4¾	
125142	7.90	Ecornifle	14	6.74	1.77	4	½	4¼	5.14
125331	41.60	Ecossain	64	30.57	8.00	4	4¾	4⅝	
125332	7.00	Ecossaises	12	5.80	1.52	4	7/16	4¼	5.33
125431	47.10	Ecotado	76	36.30	9.50	4	4⅝	4½	
125432	7.90	Ecotant	14	6.74	1.77	4	⅜	4 3/16	5.43
126001	55.85	Ecotard	96	45.84	12.00	4	6	5 11/16	
126002	8.70	Ecoulard	16	7.69	2.02	4	½	4¼	6.00
126003	59.10	Ecourgeon	102	48.71	12.75	4	6¼	5¾	
126004	9.20	Ecourtant	17	8.16	2.14	4	½	4¼	6.00
126005	53.45	Ecoussage	90	42.98	11.25	4	5¾	5½	
126006	8.30	Ecoutames	15	7.21	1.89	4	7/16	4¼	6.00
126081-A	50.55	Ecoutasses	73	34.87	9.12	5	4⅛	4¾	
126082-A	7.50	Ecouteur	12	5.80	1.52	5	5/16	5 3/16	6.08
127711	68.00	Ecoutille	108	51.57	13.50	4	6⅝	6⅛	
127712	7.90	Ecoutillon	14	6.74	1.77	4	7/16	4¼	7.71
1210001	92.00	Ecoutoir	140	66.84	17.50	4	8⅛	7½	
1210002	7.90	Ecouvette	14	6.74	1.77	4	5/16	4¼	10.00

1 5-8″ Pitch

Cast Iron Bevel Gears 1⅝″ pitch, 4½″ face, under ordinary conditions, will transmit 6.27 H. P. at 100 feet per minute on the pitch line, 9.41 H. P. at 200 feet, 11.58 H. P. at 300 feet, 16.66 H. P. at 500 feet, 23.26 H. P. at 750 feet, 28.10 H. P. at 1,000 feet, 32.66 H. P. at 1,250 feet.

Small pinions running with large gears should be cast steel for full load.

132061	$44.55	Ecritmo	66	34.15	8.95	4½	4½	5⅝	
132062	19.40	Ecritoire	32	16.58	4.34	4½	1½	5¼	2.06
133181	50.10	Ecriturer	70	36.22	9.49	4½	5 3/16	5⅝	
133182	14.20	Ecrivaille	22	11.42	2.99	4½	11/16	4⅝	3.18
134561	60.80	Ecrivimes	82	42.42	11.12	4½	5 15/16	5⅞	
134562	12.10	Ecroistre	18	9.36	2.46	4½	9/16	4⅞	4.56
135051-A	80.00	Linabrorum	91	47.08	12.35	6	7¼	8	
135052-A	15.00	Linabrum	18	9.36	2.46	6	1½	7¼	5.05

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For Cut Gear lists, see pages 482 to 502.

Cast Tooth Bevel Gears in Pairs

1 3-4″ Pitch

Cast Iron Bevel Gears 1¾″ pitch, 5″ face, under ordinary conditions, will transmit 7.50 H. P. at 100 feet per minute on the pitch line, 11.26 H. P. at 200 feet, 13.85 H. P. at 300 feet, 19.93 H. P. at 500 feet, 27.82 H. P. at 750 feet, 33.62 H. P. at 1,000 feet, 39.08 H. P. at 1,250 feet.

Small pinions running with large gears should be cast steel for full load.

Pattern Number	Price, Bored With K. S. Or S. S.	CODE WORD	Number of Teeth	Pitch Diam., Inches	Pitch Circum., Feet	Face, Inches	Backing, Inches	Standard Length Through Hub, Inches	Speed Ratio
141101	$33.80	Ecrouir	44	24.53	6.42	5	3 1/16	5 7/8	
141102	28.85	Ecstacy	40	22.30	5.84	5	2 5/8	5 13/16	1.10
141143	36.25	Ecstatic	48	26.76	7.00	5	3 5/16	6	
141144	30.00	Ecuable	42	23.42	6.13	5	2 5/8	5 7/8	1.14
141211	42.35	Ecuacion	58	32.32	8.46	5	3 5/8	6 1/8	
141212	33.50	Ecubier	48	26.76	7.00	5	2 3/4	6 1/16	1.21
141261	33.80	Eculeo	44	24.53	6.42	5	3 1/4	6	
141262	25.75	Ecumais	35	19.52	5.10	5	2 1/4	5 3/4	1.26
141311	32.45	Ecumant	42	23.42	6.13	5	3 3/8	5 3/4	
141312	23.85	Ecumeux	32	17.85	4.67	5	2 1/8	5 5/8	1.31
141331	25.75	Ecumions	32	17.85	4.67	5	3	5 1/2	
141332	18.75	Ecunemica	24	13.41	3.51	5	1 3/4	5 1/4	1.33
141333	31.20	Eddas	40	22.30	5.84	5	3 3/16	5 3/4	
141334	22.55	Eddered	30	16.74	4.38	5	2 1/8	5 1/2	1.33
141351-A	41.35	Eddoes	54	30.10	7.88	5 1/2	3 3/4	6 3/8	
141352-A	30.35	Edealogia	40	22.30	5.84	5 1/2	2 1/2	6 1/2	1.35
141361	43.40	Edelaardig	60	33.44	8.76	5	3 15/16	6 1/8	
141362	31.15	Edeldame	44	24.53	6.42	5	2 5/16	5 7/8	1.36
141431	33.15	Lancettier	43	23.97	6.27	5	3 1/4	5 1/4	
141432	22.55	Lancettone	30	16.74	4.38	5	1 3/4	5 1/2	1.43
141431-A	30.60	Edelfest	43	23.97	6.27	4	3 1/4	4 13/16	
141432-A	21.65	Edelfink	30	16.74	4.38	4	1 3/4	4 5/8	1.43
141471-A	34.80	Edelfisch	47	26.20	6.85	4 1/2	3 1/2	5 3/8	
141472-A	23.85	Edelfrau	32	17.85	4.67	4 1/2	1 13/16	5 1/8	1.47
141473	24.15	Linase	31	17.29	4.52	5	2 1/8	4 1/2	
141474	16.70	Linasista	21	11.74	3.07	5	2	5 1/2	1.47
141501	46.90	Edelfuchs	66	36.78	9.63	5	4	5 15/16	
141502	31.15	Edelgarbe	44	24.53	6.42	5	2	5 11/16	1.50
141503	40.00	Linasudas	54	30.10	7.88	5	3 7/8	5 15/16	
141504	26.35	Linasudo	36	20.08	5.25	5	1 1/8	5 1/8	1.50
141591	40.00	Edelhengst	54	30.10	7.88	5	4	5 15/16	
141592	25.15	Edelhof	34	18.97	4.96	5	1 7/8	5 3/4	1.59
141651	46.90	Edelknabe	66	36.78	9.63	5	4 3/4	6 1/4	
141652	28.85	Edelknecht	40	22.30	5.84	5	2	5 7/8	1.65
141681-A	22.00	Lancharas	27	15.07	3.94	4	3 1/4	5 1/8	
141682-A	13.20	Lanchazo	16	8.97	2.35	4	1 3/8	4 1/8	1.68

NOTE.—By our Machine Molding Process we can furnish Gears of any kind or dimension with comparatively small pattern expense.

For Cut Gear lists, see pages 482 to 502.

Cast Tooth Bevel Gears in Pairs

1 3-4″ Pitch—Continued

For Horse Power transmitted by Bevel Gears 1¾″ pitch, see page 421.

Pattern Number	Price, Bored With K. S. Or S. S	CODE WORD	Number of Teeth	Pitch Diam., Inches	Pitch Circum., Feet	Face, Inches	Backing, Inches	Standard Length Through Hub, Inches	Speed Ratio
141741	$26.45	Edelkrebs	33	18.41	4.81	5	3¼	5¼	
141742	15.50	Edellehen	19	10.63	2.78	5	1	4⅞	1.74
141753	32.50	Edelmann	42	23.42	6.13	5	3 13/16	5 11/16	
141754	18.75	Edelmarder	24	13.41	3.51	5	1½	5⅜	1.75
141781	25.75	Edelmass	32	17.85	4.67	5	3½	5½	
141782	15.00	Edelmoedig	18	10.08	2.64	5	1	4 15/16	1.78
141801	40.00	Edelmogend	54	30.10	7.88	5	4 5/16	5 15/16	
141802	22.55	Edelmuth	30	16.74	4.38	5	1 9/16	5⅝	1.80
141911	32.50	Edelopal	42	23.42	6.13	5	3 15/16	5⅝	
141912	17.40	Edelraut	22	12.30	3.22	5	1 3/16	5¼	1.91
141941	45.80	Edelreis	64	35.66	9.34	5	4 15/16	6⅛	
141942	24.45	Edelrose	33	18.41	4.81	5	1 9/16	5 11/16	1.94
141971	45.20	Edelschoen	63	35.11	9.20	5	3 1/16	4½	
141972	23.85	Edelsinn	32	17.85	4.67	5	1½	5⅝	1.97
142001	45.80	Edelsinnig	64	35.66	9.34	5	4 13/16	6 3/16	
142002	23.85	Edelstahl	32	17.85	4.67	5	1 9/16	5¾	2.00
142041	40.90	Mousqueton	51	28.42	7.44	5	4½	5¾	
142042	19.40	Moutardier	25	13.96	3.65	5	2⅛	6⅛	2.04
142051	30.50	Lanciabile	39	21.75	5.69	5	3¾	5¾	
142052	15.50	Lanciasse	19	10.63	2.78	5	1¾	5⅝	2.05
142061-A	25.00	Lanciatoio	35	19.52	5.10	4	3¾	4⅞	
142062-A	13.50	Lanciatore	17	9.52	2.49	4	1¼	4 7/16	2.06
142071-A	23.50	Movendum	29	16.16	4.23	4½	3 9/16	5	
142072-A	12.00	Movibili	14	7.80	2.06	4½	15/16	4⅝	2.07
142111	56.65	Edelstolz	76	42.35	11.09	5	5⅛	6⅜	
142112	26.35	Edelthat	36	20.08	5.25	5	1½	5¾	2.11
142251	43.00	Edelthier	54	30.10	7.88	5	4½	5¾	
142252	18.75	Edelweiss	24	13.41	3.51	5	1 5/16	5 7/16	2.25
142253	37.00	Movilidad	45	25.08	6.56	5	3½	4¾	
142254	16.00	Movizone	20	11.19	2.93	5	1	5½	2.25
142361	41.60	Edematico	52	28.98	7.59	5	4½	5 11/16	
142362	17.40	Edematous	22	12.30	3.22	5	1⅛	5¼	2.36
142381	56.65	Edenique	76	42.35	11.09	5	5⅜	6⅜	
142382	23.85	Edenisch	32	17.85	4.67	5	1 5/16	5 11/16	2.38
142401	28.50	Linaloa	36	20.08	5.25	5	4	4½	
142402	13.00	Lincearas	15	8.42	2.20	5	½	5	2.40
142451	77.55	Edenize	108	60.17	15.75	5	6 3/16	7	
142452	31.15	Edenizing	44	24.53	6.42	5	1 9/16	5⅞	2.45

NOTE.—By our Machine Molding Process we can furnish Gears of any kind or dimension with comparatively small pattern expense.

For Cut Gear lists, see pages 482 to 502.

Cast Tooth Bevel Gears in Pairs

1 3-4″ Pitch—Continued

For Horse Power transmitted by Bevel Gears 1¾″ pitch, see page 421.

Pattern Number	Price, Bored With K. S. Or S. S.	CODE WORD	Number of Teeth	Pitch Diam., Inches	Pitch Circum., Feet	Face, Inches	Backing, Inches	Standard Length Through Hub, Inches	Speed Ratio
142471	$55.35	Edenruine	74	41.23	10.80	5	5¼	6¼	
142472	22.55	Edental	30	16.74	4.38	5	1¼	5⅝	2.47
142473	49.25	Edentalous	64	35.66	9.34	5	5 1/16	6	
142474	20.00	Edentamus	26	14.52	3.80	5	1 3/16	5⅝	2.47
142473-A	47.00	Edentation	64	35.66	9.34	4	5 1/16	5 9/16	
142474-A	19.35	Edento	26	14.52	3.80	4	1 3/16	4⅝	2.47
142501-A	32.35	Edentula	40	22.30	5.84	4	4⅜	5⅛	
142502-A	13.20	Edentulus	16	8.97	2.35	4	13/16	4⅜	2.50
142501-B	36.35	Edera	40	22.30	5.84	6	1¾	3½	
142502-B	14.70	Ederaceus	16	8.97	2.35	6	13/16	6¼	2.50
142671	39.00	Ederato	48	26.76	7.00	5	4⅝	5⅝	
142672	15.00	Edeiso	18	10.08	2.64	5	¾	5¼	2.67
142831	51.70	Edesside	68	37.89	9.92	5	5¼	6	
142832	18.75	Edetana	24	13.41	3.51	5	1 1/16	5⅝	2.83
142891	41.60	Edetanos	52	28.98	7.59	5	4⅞	5¾	
142892	15.00	Edgar	18	10.08	2.64	5	15/16	5¼	2.89
143001	37.00	Edgeless	45	25.08	6.56	5	4 13/16	5 11/16	
143002	13.00	Edgewise	15	8.42	2.20	5	11/16	5 1/16	3.00
143003-A	46.70	Edgythe	60	33.44	8.76	4½	4 7/16	4 15/16	
143004-A	16.00	Edharz	20	11.19	2.93	4½	⅞	4¾	3.00
143005	40.00	Moxameiro	54	30.10	7.88	5	4⅞	5¾	
143006	15.00	Moxmordo	18	10.08	2.64	5	15/16	6¼	3.00
143007-A	28.00	Linceaste	39	21.75	5.69	4	3	3¾	
143008-A	11.00	Linceo	13	7.31	1.91	4	⅜	3⅞	3.00
143101	51.50	Edhemite	62	34.55	9.05	5	5⅜	6	
143102	16.15	Edibility	20	11.19	2.93	5	13/16	5¼	3.10
143331	43.25	Moyaron	50	27.87	7.30	5	4¼	5	
143332	13.00	Moyaste	15	8.42	2.20	5	⅞	5⅝	3.33
143541	60.00	Lanciavano	78	43.45	11.38	5	6½	6⅞	
143542	17.40	Lancibus	22	12.30	3.22	5	⅞	5⅜	3.54
143571	43.25	Edible	50	27.87	7.30	5	5	5½	
143572	12.35	Edibleness	14	7.86	2.06	5	11/16	5 5/16	3.57
143781	55.40	Edicaria	68	37.89	9.92	5	5 13/16	6⅛	
143782	15.00	Edicendum	18	10.08	2.64	5	⅝	5 5/16	3.78
143781-A	57.30	Edichio	68	37.89	9.92	6	3 11/16	5 15/16	
143782-A	15.90	Edicola	18	10.08	2.64	6	⅝	6 5/16	3.78
144001	63.45	Edictabam	80	44.57	11.68	5	6¼	6⅜	
144002	16.15	Edictabis	20	11.19	2.93	5	11/16	5 3/16	4.00

NOTE.—By our Machine Molding Process we can furnish Gears of any kind or dimension with comparatively small pattern expense.

For Cut Gear lists, see pages 482 to 502.

Cast Tooth Bevel Gears in Pairs

1 3-4″ Pitch—Continued

For Horse Power transmitted by Bevel Gears 1¾″ pitch, see page 421.

Pattern Number	Price, Bored With K. S. Or S. S.	CODE WORD	Number of Teeth	Pitch Diam., Inches	Pitch Circum., Feet	Face, Inches	Backing, Inches	Standard Length Through Hub, Inches	Speed Ratio
144381	$92.45	Edictalium	114	63.51	16.62	5	7½	7 7/16	
144382	20.00	Edictamus	26	14.52	3.80	5	13/16	5⅜	4.38
144441	67.70	Edictarem	80	44.57	11.68	5	6 3/16	6 5/16	
144442	15.00	Edictavi	18	10.08	2.64	5	⅝	5¼	4.44
144671	70.80	Edictione	84	46.80	12.26	5	5⅝	5 9/16	
144672	15.00	Edictionis	18	10.08	2.64	5	⅝	5¼	4.67
145001	67.70	Mozallon	80	44.57	11.68	5	6⅜	6 9/16	
145002	13.60	Mozuelo	16	8.97	2.35	5	9/16	5 3/16	5.00
145331	79.70	Edictorum	96	53.48	14.01	5	6⅞	6 11/16	
145332	15.00	Edicule	18	10.08	2.64	5	½	5 9/16	5.33
145501	74.00	Ediderunt	88	49.03	12.84	5	6	5⅞	
145502	13.60	Edifiant	16	8.97	2.35	5	⅝	5¼	5.50
145691	63.30	Edificaban	74	41.23	10.80	5	6⅜	6 3/16	
145692	11.65	Edificada	13	7.31	1.91	5	7/16	5¼	5.69
145751	76.70	Edifice	92	51.26	13.44	5	6 15/16	6¾	
145752	13.60	Edificios	16	8.97	2.35	5	½	5 3/16	5.75
146251-A	65.00	Lancicula	75	41.79	10.95	5½	6	6	
146252-A	11.70	Lanciculis	12	6.76	1.77	5½	½	5¾	6.25
146471	95.35	Edifiement	110	61.28	16.04	5	7 7/16	6 15/16	
146472	14.30	Edifieras	17	9.52	2.49	5	½	5 9/16	6.47
147001	76.00	Lincetalda	91	50.69	13.29	5	7 7/16	7½	
147002	11.65	Linconie	13	7.31	1.91	5	½	5⅜	7.00
147381	79.70	Langbeinig	96	53.48	14.01	5	6⅞	6½	
147382	11.65	Langblumig	13	7.31	1.91	5	⅜	5⅛	7.38
147531	107.25	Edifiques	128	71.31	18.69	5	8½	8⅝	
147532	14.30	Edify	17	9.52	2.49	5	½	5¼	7.53
1410001	114.50	Edifying	130	72.42	18.85	5	8	7¼	
1410002	11.65	Edifyingly	13	7.31	1.91	5	⅜	5½	10.00

1 7-8″ Pitch

Cast Iron Bevel Gears 1⅞″ pitch, 5″ face, under ordinary conditions, will transmit 8.03 H. P. at 100 feet per minute on the pitch line, 12.07 H. P. at 200 feet, 14.84 H. P. at 300 feet, 21.36 H. P. at 500 feet, 29.81 H. P. at 750 feet, 36.02 H. P. at 1,000 feet, 41.87 H. P. at 1,250 feet.

Small pinions running with large gears should be cast steel for full load.

151211-A	$35.20	Ediografia	40	23.90	6.26	4½	3 5/16	5½	
151212-A	29.10	Ediologia	33	19.72	5.17	4½	2 5/16	5¼	1.21
151251	44.00	Edileship	50	29.86	7.82	5	3⅝	6	
151252	33.70	Edilita	40	23.90	6.26	5	2¾	5⅞	1.25
155001-A	78.00	Lincturam	75	44.78	11.72	6	6⅞	6⅞	
155002-A	16.00	Lincturi	15	9.02	2.36	6	⅜	6	5.00

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For Cut Gear lists, see pages 482 to 502.

Cast Tooth Bevel Gears in Pairs

2″ Pitch

Cast Iron Bevel Gears 2″ pitch, 5½″ face, under ordinary conditions, will transmit 9.43 H. P. at 100 feet per minute on the pitch line, 14.16 H. P. at 200 feet, 17.41 H. P. at 300 feet, 25.06 H. P. at 500 feet, 34.98 H. P. at 750 feet, 42.26 H. P. at 1,000 feet, 49.13 H. P. at 1,250 feet.

Small pinions running with large gears should be cast steel for full load.

Pattern Number	Price, Bored With K. S. Or S. S.	CODE WORD	Number of Teeth	Pitch Diam., Inches	Pitch Circum., Feet	Face, Inches	Backing, Inches	Standard Length Through Hub, Inches	Speed Ratio
161081-A	$51.15	Edmondie	52	33.12	8.67	5	3 5/8	6 1/4	
161082-A	44.75	Edmundo	48	30.58	8.01	5	3 1/4	6 1/4	1.08
161083	27.60	Langdale	26	16.59	4.35	5 1/2	2 3/4	5 7/8	
161084	25.90	Langdornig	24	15.32	4.01	5 1/2	2 3/4	6 1/4	1.08
161103-A	34.30	Effening	33	21.04	5.51	4 1/2	3 1/4	6 1/4	
161104-A	29.00	Efferasco	30	19.13	5.01	4 1/2	2 5/8	5 5/8	1.10
161115	42.00	Edoardo	40	25.49	6.67	5 1/2	2 7/16	6 1/2	
161116	35.60	Edocenter	36	22.95	6.01	5 1/2	2 15/16	6 1/2	1.11
161141	50.00	Edocephale	50	31.85	8.34	5 1/2	3 13/16	6 3/4	
161142	41.80	Edoctum	44	28.04	7.34	5 1/2	3 1/8	6 11/16	1.14
161253-A	48.95	Edocuerunt	50	31.85	8.34	5	3 11/16	6	
161254-A	38.00	Edolandos	40	25.49	6.67	5	5 11/16	5 15/16	1.25
161301	51.60	Edolandum	52	33.12	8.67	5 1/2	4 1/4	6 7/8	
161302	38.75	Edolatorum	40	25.49	6.67	5 1/2	2 3/4	6 5/8	1.30
161323	39.40	Edolatum	37	23.58	6.17	5 1/2	3 3/4	6 1/2	
161324	29.20	Edolavisti	28	17.86	4.67	5 1/2	2 5/16	6	1.32
161331-A	27.45	Edolien	24	15.32	4.01	5	3 1/4	5 15/16	
161332-A	20.35	Edomitas	18	11.52	3.02	5	1 7/16	5 3/16	1.33
161333-A	45.75	Edomitavi	48	30.58	8.01	4 1/2	4 3/16	6 1/8	
161334-A	34.60	Edomiter	36	22.95	6.01	4 1/2	2 13/16	5 15/16	1.33
161335-A	30.30	Edoner	28	17.86	4.67	4 1/2	1 7/8	5 9/16	
161336-A	22.15	Edonio	21	13.42	3.51	4 1/2	1 7/16	4 3/4	1.33
161351	50.00	Edonismo	50	31.85	8.34	5 1/2	4 1/8	6 11/16	
161352	36.45	Edonorum	37	23.58	6.17	5 1/2	2 1/2	6 1/2	1.35
161381	56.30	Edormisco	58	36.94	9.67	5 1/2	4 9/16	7	
161382	40.30	Edossage	42	26.76	7.01	5 1/2	2 11/16	6 11/16	1.38
161401	43.60	Edostone	42	26.76	7.01	5 1/2	3 15/16	6 1/2	
161402	30.90	Edris	30	19.13	5.01	5 1/2	2 1/4	5 7/8	1.40
161403-A	36.40	Edrisant	35	22.31	5.84	4 1/2	3 13/16	6 3/8	
161404-A	25.60	Edrisda	25	15.96	4.18	4 1/2	1 7/16	4 3/4	1.40
161431-A	49.45	Edrisden	50	31.85	8.34	5	4 1/4	6 3/8	
161432-A	34.50	Edrum	35	22.31	5.84	5	2 3/8	6 1/16	1.43
161501	38.60	Educadores	36	22.95	6.01	5 1/2	3 7/8	6 3/8	
161502	25.90	Educados	24	15.32	4.01	5 1/2	2	6 3/8	1.50
161503	48.45	Educate	48	30.58	8.01	5 1/2	4 3/8	6 3/4	
161504	32.50	Educateur	32	20.40	5.34	5 1/2	2 1/4	6 7/16	1.50

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For Cut Gear lists, see pages 482 to 502.

Cast Tooth Bevel Gears in Pairs

2″ Pitch—Continued

For Horse Power transmitted by Bevel Gears 2″ pitch, see page 425.

Pattern Number	Price, Bored With K. S. Or S. S.	CODE WORD	Number of Teeth	Pitch Diam., Inches	Pitch Circum., Feet	Face, Inches	Backing, Inches	Standard Length Through Hub, Inches	Speed Ratio
161531	$46.80	Educative	46	29.31	7.67	5½	4 7/16	6 3/4	
161532	30.90	Educatore	30	19.13	5.01	5½	1 3/8	5 7/8	1.53
161533	49.25	Mozzicoda	49	31.19	8.17	5½	5	6 1/4	
161534	32.50	Mubango	32	20.37	5.34	5½	1 7/8	6	1.53
161551	36.90	Educatrix	34	21.68	5.67	5½	3 15/16	6 3/8	
161552	24.15	Educatum	22	14.05	3.68	5½	1 7/8	5 5/16	1.55
161611	56.30	Educaturos	58	36.94	9.67	5½	4 7/8	6 15/16	
161612	35.60	Educaturum	36	22.95	6.01	5½	2 1/4	6 9/16	1.61
161613	50.00	Educavano	50	31.85	8.34	5½	4 11/16	6 7/8	
161614	32.00	Educavisti	31	19.77	5.17	5½	2 1/16	6 7/16	1.61
161671	50.00	Educavit	50	31.85	8.34	5½	4½	6½	
161672	30.90	Educhiamo	30	19.13	5.01	5½	2	6 3/8	1.67
161691	39.85	Eductor	44	28.04	7.34	5½	4 7/16	6½	
161692	27.60	Edulcare	26	16.59	4.35	5½	1 7/8	6 3/8	1.69
161771	46.80	Edulcorado	46	29.31	7.67	5½	4 3/4	6 11/16	
161772	27.60	Edulcorant	26	16.59	4.35	5½	1 3/16	6 3/8	1.77
161901	70.00	Edulica	76	48.40	12.68	5½	5 11/16	7 1/4	
161902	38.75	Edulious	40	25.49	6.67	5½	2 3/16	6 7/8	1.90
161921	50.00	Edulis	50	31.85	8.34	5½	5 5/8	6 3/4	
161922	27.60	Edumia	26	16.59	4.35	5½	1 1/4	5½	1.92
162001	48.45	Eduquant	48	30.58	8.01	5½	4 15/16	6 5/8	
162002	25.90	Eduques	24	15.32	4.01	5½	1 3/16	5½	2.00
162003	57.90	Edurorum	60	38.21	10.01	5½	5 1/4	6 13/16	
162004	30.90	Edwardsie	30	19.13	5.01	5½	1 3/4	6 3/8	2.00
162005-A	34.00	Mucchero	32	20.40	5.34	5	2 5/8	4 15/16	
162006-A	18.65	Mucescere	16	10.25	2.69	5	15/16	5 3/8	2.00
162007-A	37.00	Langdraad	38	24.22	6.34	4	8	8½	
162008-A	20.00	Langdradig	19	12.15	3.18	4	3	6 1/4	2.00
1620011-A	29.20	Lincturos	28	17.86	4.67	5	3	4 1/16	
1620012-A	16.80	Lincurio	14	8.99	2.35	5	1	5 1/16	2.00
162231-A	63.70	Edwarsite	58	36.94	9.67	6	4 11/16	6 1/4	
162232-A	28.60	Edwig	26	16.59	4.35	6	1 1/8	6 1/16	2.23
162241-A	38.80	Efferatio	38	24.22	6.34	4 5/8	4 3/8	6 3/8	
162242-A	18.70	Efferatus	17	10.88	2.85	4 5/8	1 1/8	4 13/16	2.24
162311	62.30	Eelspear	60	38.21	10.01	5½	5 11/16	6 15/16	
162312	27.60	Efantel	26	16.59	4.35	5½	1 1/4	6 1/4	2.31
162331	46.90	Efaufile	42	26.76	7.01	5½	4 13/16	6 5/16	
162332	20.60	Efectuado	18	11.52	3.02	5½	1 1/16	5 11/16	2 33

NOTE.—By our Machine Molding Process we can furnish Gears of any kind or dimension with comparatively small pattern expense.

For Cut Gear lists, see pages 482 to 502.

Cast Tooth Bevel Gears in Pairs

2″ Pitch—Continued

For Horse Power transmitted by Bevel Gears 2″ pitch, see page 425.

Pattern Number	Price, Bored With K. S. Or S. S.	CODE WORD	Number of Teeth	Pitch Diam., Inches	Pitch Circum., Feet	Face, Inches	Backing, Inches	Standard Length Through Hub, Inches	Speed Ratio
162461	$65.50	Efectuamos	64	40.76	10.67	5½	5 11/16	6 13/16	
162462	27.60	Efectuaron	26	16.59	4.35	5½	1 3/8	6	2.46
162501	45.10	Efectuases	40	25.49	6.67	5½	4 15/16	6 5/16	
162502	18.80	Efedra	16	10.25	2.69	5½	11/16	5 15/16	2.50
162501-A	43.00	Efesias	40	25.49	6.67	5	4 15/16	6 1/16	
162502-A	18.65	Efesio	16	10.25	2.69	5	1 1/16	5½	2.50
162671	65.50	Efestite	64	40.76	10.67	5½	6 3/16	7 1/16	
162672	25.90	Efetico	24	15.32	4.01	5½	1¼	6 5/16	2.67
162711	75.30	Effable	76	48.40	12.68	5½	6 7/16	7 5/16	
162712	29.20	Effacable	28	17.86	4.67	5½	1 9/16	6¼	2.71
162731-A	51.15	Mucharia	52	33.12	8.67	5	4⅞	6 3/16	
162732-A	21.00	Mucidaglia	19	12.15	3.18	5	1	5⅜	2.73
162771-A	52.00	Effacage	50	31.85	8.34	6	5½	7⅛	
162772-A	21.35	Effacais	18	11.52	3.02	6	1 1/16	6½	2.77
162801	46.90	Langdurig	42	26.74	7.01	5½	3½	6	
162802	17.90	Langetmuts	15	9.55	2.52	5½	1⅛	6	2.80
162851-A	43.00	Langeveld	40	25.49	6.67	5	8½	9¼	
162852-A	16.80	Langeweile	14	8.99	2.35	5	1¼	6⅛	2.85
162851-B	40.00	Langfinger	40	25.49	6.67	4	4 3/16	5	
162852-B	15.50	Langfuss	14	8.99	2.35	4	⅝	4½	2.85
162871	50.40	Effacasses	46	29.31	7.67	5½	5 9/16	6½	
162872	18.80	Effacerais	16	10.25	2.69	5½	15/16	5¾	2.87
163001	52.15	Effaceriez	48	30.58	8.01	5½	5½	6⅜	
163002	18.80	Effacerons	16	10.25	2.69	5½	13/16	5⅞	3.00
163003	67.10	Effacest	66	42.03	11.00	5½	6¼	7	
163004	24.15	Effacing	22	14.05	3.68	5½	15/16	5 11/16	3.00
163005	76.75	Effacons	78	49.67	13.01	5½	6 11/16	7¼	
163006	27.60	Effaner	26	16.59	4.35	5½	1 5/16	6	3.00
163007	59.80	Effanures	57	36.30	9.51	5½	6	6¾	
163008	21.45	Effarcimus	19	12.15	3.18	5½	15/16	5¾	3.00
163331-A	72.00	Langgras	60	38.21	10.01	7	6¼	7 1/16	
163332-A	22.50	Langhaar	18	11.52	3.02	7	1	7⅜	3.33
163431	53.95	Mucivora	55	35.03	9.17	5½	6	6¾	
163432	18.80	Mudadura	16	10.25	2.69	5½	1¼	6¾	3.43
163471	67.10	Lindadoro	66	42.03	11.00	5½	5⅜	6	
163472	21.45	Lindamento	19	12.15	3.18	5½	¾	5⅝	3.47
163631	72.30	Langhaarig	69	43.94	11.50	5½	7 13/16	8⅛	
163632	21.45	Langhals	19	12.15	3.18	5½	1	6¼	3.63

NOTE.—By our Machine Molding Process we can furnish Gears of any kind or dimension with comparatively small pattern expense.

For Cut Gear lists, see pages 482 to 502.

Cast Tooth Bevel Gears in Pairs

2″ Pitch—Continued

For Horse Power transmitted by Bevel Gears 2″ pitch, see page 425.

Pattern Number	Price, Bored With K. S. Or S. S.	CODE WORD	Number of Teeth	Pitch Diam., Inches	Pitch Circum., Feet	Face, Inches	Backing, Inches	Standard Length Through Hub, Inches	Speed Ratio
163751	$66.65	Effarcio	60	38.21	10.01	5½	6 5/16	6 11/16	
163752	18.80	Effacciunt	16	10.25	2.69	5½	13/16	5 13/16	3.75
163921	99.50	Effarement	98	62.40	16.34	5½	7 7/8	7 15/16	
163922	26.75	Effarvatte	25	15.96	4.18	5½	1⅛	6½	3.92
164001	70.30	Effatio	64	40.76	10.67	5½	6⅜	6¾	
164002	18.80	Effatione	16	10.25	2.69	5½	13/16	6	4.00
164003	55.85	Effatorum	48	30.58	8.01	5½	4 7/8	5⅜	
164004	15.15	Effauce	12	7.73	2.02	5½	13/16	5⅞	4.00
164005-A	90.00	Lindeblad	80	50.94	13.35	6½	7¼	7½	
164006-A	26.00	Lindeboom	20	12.78	3.35	6½	15/16	7 3/16	4.00
164041-A	107.00	Lindeloof	101	64.31	16.84	5	7⅛	6⅝	
164042-A	26.40	Lindemot	25	15.96	4.18	5	½	5⅛	4.04
164311-A	63.50	Effaumer	56	35.67	9 34	4	6	5¾	
164312-A	15.40	Effectible	13	8.36	2.19	4	13/16	4 5/16	4.31
164361	104.35	Effectif	96	61.13	16.00	5½	8	7 15/16	
164362	24.15	Effectione	22	14.05	3.68	5½	1	6	4.36
164401-A	92.00	Effectivo	88	56.03	14 69	4	7¼	6⅞	
164402-A	22.40	Effectivus	20	12.78	3.35	4	13/16	4½	4.40
164401-B	98.00	Langhalsig	88	56.03	14.69	5	7	7⅛	
164402-B	23.50	Langhand	20	12.78	3.35	5	1⅛	5⅞	4.40
164751	120.15	Effectless	114	72.58	19.00	5½	7¾	7⅝	
164752	25.90	Effectrix	24	15.32	4.01	5½	1	6 7/16	4.75
164951-A	100.00	Langhin	94	59.85	15.67	5	7⅞	8¼	
164952-A	21.00	Langholz	19	12.15	3.18	5	1¼	6	4.95
165001	116.60	Effectuar	110	70.04	18.33	5½	8½	8¼	
165002	24.15	Effectuose	22	14.05	3.68	5½	⅞	6	5.00
165371	95.30	Effecundo	86	54.76	14.35	5½	7¾	7½	
165372	18.80	Effeito	16	10.25	2.69	5½	11/16	5 13/16	5.37
165911	134.00	Effelure	130	82.77	21.66	5½	7 9/16	7⅛	
165912	24.15	Effeminar	22	14.05	3.68	5½	⅞	6 1/16	5.91
166931-A	128.60	Effeminava	104	66.22	17.34	6	8 7/16	8	
166932-A	17.90	Effeminize	15	9.62	2.52	6	5/8	6⅜	6.93
168121	150.90	Effendi	130	82.77	21.66	5½	10 3/16	9 7/16	
168122	18.80	Effenende	16	10.25	2.69	5½	9/16	5 13/16	8.12

NOTE.—By our Machine Molding Process we can furnish Gears of any kind or dimension with comparatively small pattern expense.

For Cut Gear lists, see pages 482 to 502.

Cast Tooth Bevel Gears in Pairs

2 1-8″ Pitch

Cast Iron Bevel Gears 2⅛″ pitch, 4½″ face, under ordinary conditions will transmit 8.20 H. P. at 100 feet per minute on the pitch line, 12.31 H. P. at 200 feet, 15.14 H. P. at 300 feet, 21.78 H. P. at 500 feet, 30.41 H. P. at 750 feet, 36.74 H. P. at 1,000 feet, 42.70 H. P. at 1,250 feet.

Small pinions running with large gears should be cast steel for full load.

Pattern Number	Price, Bored With K. S. Or S. S.	CODE WORD	Number of Teeth	Pitch Diam., Inches	Pitch Circum., Feet	Face, Inches	Backing, Inches	Standard Length Through Hub, Inches	Speed Ratio
171941-A	$45.30	Effersisti	35	23.71	6.20	4½	4⅜	5⅝	
171942-A	23.50	Effervens	18	12.24	3.21	4½	1¼	4 11/16	1.94
172061-A	47.50	Efferous	37	25.06	6.56	4½	4¾	5⅞	
172062-A	23.50	Effersimus	18	12.24	3.21	4½	1 3/16	4 11/16	2.06

2 1-4″ Pitch

Cast Iron Bevel Gears 2¼″ pitch, 6½″ face, under ordinary conditions, will transmit 12.53 H. P. at 100 feet per minute on the pitch line, 18.83 H. P. at 200 feet, 23.15 H. P. at 300 feet, 33.31 H. P. at 500 feet, 46.50 H. P. at 750 feet, 56.20 H. P. at 1,000 feet, 65.30 H. P. at 1,250 feet.

Small pinions running with large gears should be cast steel for full load.

181051	$58.70	Efferveo	42	30.11	7.88	6½	3⅜	7 9/16	
181052	52.00	Effervesce	40	28.68	7.51	6½	2¾	6½	1.05
181071	47.15	Efficiency	32	22.95	6.01	6½	3 7/16	7 5/16	
181072	41.30	Efficient	30	21.52	5.64	6½	3	7¼	1.07
181141	65.50	Efficienza	48	34.40	9.01	6½	4⅜	7⅞	
181142	54.20	Efficta	42	30.11	7.88	6½	3⅜	7 11/16	1.14
181171	74.10	Effictorum	56	40.13	10.50	6½	4⅝	8	
181172	59.40	Effictum	47	33.68	8.82	6½	3½	7 13/16	1.17
181201	51.70	Effigiar	36	25.82	6.76	6½	3 15/16	7½	
181202	41.35	Effigiassi	30	21.52	5.64	6½	2⅞	7⅜	1.20
181261	87.00	Effigiava	68	48.72	12.75	6½	5 3/16	8¼	
181262	66.40	Effigie	54	38.70	10.13	6½	3 9/16	8½	1.26
181333	61.00	Effiloche	44	31.54	8.26	6½	4⅜	7½	
181334	44.55	Effiloquer	33	23.67	6.20	6½	2 11/16	7 7/16	1.33
181363	67.55	Efflagito	50	35.83	9.38	6½	4 3/16	7 3/16	
181364	47.75	Efflanque	36	25.82	6.76	6½	2 11/16	7½	1.36
181401	58.70	Efflation	42	30.11	7.88	6½	4½	7 9/16	
181402	41.30	Efflatos	30	21.52	5.64	6½	2 9/16	7 7/16	1.40
181451	82.15	Effleure	64	45.83	12.00	6½	5 9/16	8¼	
181452	56.30	Efflictim	44	31.51	8.26	6½	2 15/16	7 13/16	1.45
181453-A	68.00	Lindenbast	51	36.52	9.57	6	5⅛	7½	
181454-A	45.00	Lindengang	35	25.10	6.58	6	2⅝	7⅛	1.45
181541	56.30	Effloreo	40	28.68	7.51	6½	4¾	7 9/16	
181542	36.60	Effloremus	26	18.66	4.89	6½	2¼	7	1.54
181561	67.55	Effloresce	50	35.83	9.38	6½	5⅛	7⅞	
181562	43.55	Efflower	32	22.95	6.01	6½	2⅜	7½	1.56
181651	74.10	Effluencia	56	40.13	10.50	6½	5 7/16	7 13/16	
181652	45 60	Effluente	34	24.39	6.39	6½	2⅜	7½	1.65

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For Cut Gear lists, see pages 482 to 502.

Cast Tooth Bevel Gears in Pairs

2 1-4″ Pitch—Continued

For Horse Power transmitted by Bevel Gears 2¼″ pitch, see page 429.

Pattern Number	Price, Bored With K. S. Or S. S.	CODE WORD	Number of Teeth	Pitch Diam., Inches	Pitch Circum., Feet	Face, Inches	Backing, Inches	Standard Length Through Hub, Inches	Speed Ratio
181711	$65.50	Effluvial	48	34.40	9.01	6½	5 5/16	7¾	
181712	38.90	Effluvio	28	20.09	5.26	6½	2⅞	7⅜	1.71
181801	72.00	Effluxed	54	38.70	10.13	6½	5⅝	7 13/16	
181802	41.30	Effluxing	30	21.52	5.64	6½	2 1/16	7⅜	1.80
181921	67.55	Effluxorum	50	35.83	9.38	6½	5 11/16	7¾	
181922	36.60	Effocare	26	18.66	4.89	6½	1⅞	7⅜	1.92
181941	84.75	Effoderunt	66	47.29	12.38	6½	6	7 15/16	
181942	44.20	Effodimus	34	24.39	6.39	6½	2⅛	7 9/16	1.94
182061	84.75	Effodisti	66	47.29	12.38	6½	6 7/16	8 3/16	
182062	43.55	Effondrait	32	22.95	6.01	6½	2	7½	2.06
18¼2081A	36.85	Effrenibus	25	18.19	4.70	3½	4 7/16	5⅛	
18¼2082A	18.10	Effrenis	12	8.72	2.28	3½	1 3/16	4 1/16	2.08
182231	82.15	Mudiliar	58	41.56	10.88	6½	6	7⅝	
182232	36.60	Muelleado	26	18.67	4.89	6½	1 9/16	7	2.23
182271	72.75	Effondront	50	35.83	9.38	6½	6 1/16	7 11/16	
182272	31.75	Effor	22	15.81	4.14	6½	1 9/16	7	2.27
182501	72.75	Efforcais	50	35.83	9.38	6½	6 3/16	7 11/16	
182502	29.40	Efforcant	20	14.38	3.76	6½	1⅛	6⅝	2.50
182503	96.25	Efforcing	70	50.15	13.13	6½	7	8¼	
182504	38.90	Efforcions	28	20.09	5.26	6½	1 3/16	7 7/16	2.50
182641	82.15	Efformed	58	41.56	10.88	6½	6⅝	7⅞	
182642	31.75	Efformier	22	15.81	4.14	6½	1 7/16	7	2.64
182851-A	53.40	Effortless	37	26.53	6.95	5	3½	6¼	
182852-A	19.25	Effossioni	13	9.40	2.46	5	1	5 5/16	2.85
183081	116.00	Effossum	80	57.31	15.02	6½	7 13/16	8½	
183082	36.60	Effouage	26	18.67	4.89	6½	1 5/16	7	3.08
183101	92.90	Effoueil	62	44.42	11.63	6½	7 1/16	7⅞	
183102	29.40	Effractor	20	14.38	3.76	6½	1	6¾	3.10
184121	104.65	Effracture	66	47.29	12.38	6½	7⅝	8	
184122	24.70	Effrange	16	11.53	3.02	6½	⅞	6¾	4.12
184201	130.00	Effrayable	84	60.16	15.77	6½	8 9/16	8⅝	
184202	29.40	Effraver	20	14.38	3.76	6½	⅞	6 13/16	4.20
184461-A	96.00	Muengas	67	48.00	12.57	5	6 3/16	10	
184462-A	22.00	Muerdan	15	10.82	2.83	5	1	5¼	4.46
185001	152.60	Effrayeras	100	71.63	18.78	6½	9⅛	9	
185002	29.40	Effrayiez	20	14.38	3.76	6½	1	7 1/16	5.00
185661-A	151.20	Effrayons	102	73.06	19.15	6	9	8¾	
185662-A	26.00	Effrenatus	18	12.96	3.39	6	1/16	6⅜	5.66

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For Cut Gear lists, see pages 482 to 502.

Cast Tooth Bevel Gears in Pairs

2 1-2″ Pitch

Cast Iron Bevel Gears 2½″ pitch, 7″ face, under ordinary conditions, will transmit 15.00 H. P. at 100 feet per minute on the pitch line, 22.52 H. P. at 200 feet, 27.70 H. P. at 300 feet, 39.87 H. P. at 500 feet, 55.65 H. P. at 750 feet, 67.24 H. P. at 1,000 feet. 78.16 H. P. at 1,250 feet.

Small pinions running with large gears should be cast steel for full load.

Pattern Number	Price, Bored With K. S. Or S. S.	CODE WORD	Number of Teeth	Pitch Diam., Inches	Pitch Circum., Feet	Face, Inches	Backing, Inches	Standard Length Through Hub, Inches	Speed Ratio
201121	$92.85	Effricare	56	44.58	11.67	7	4 13/16	8½	
201122	77.50	Effricatum	50	39.82	10.42	7	4 1/16	8 7/16	1.12
201181	70.00	Effrico	40	31.86	8.35	7	4¼	8	
201182	56.40	Effrique	34	27.09	7.10	7	3 5/16	8	1.18
201201	59.50	Langholzes	36	28.68	7.52	7	4¼	8	
201202	50.90	Langhose	30	23.92	6.26	7	3 7/16	8	1.20
201261	81.60	Effriter	48	38.22	10.00	7	4 13/16	8¼	
201262	62.00	Effrixisti	38	30.27	7.93	7	3¼	8 1/16	1.26
201281	104.00	Effroisser	64	50.95	13.34	7	5⅛	8¼	
201282	77.50	Effruitant	50	39.82	10.42	7	3 11/16	8½	1.28
201361-A	60.00	Muerdago	34	27.09	7.10	8	4 7/16	8⅝	
201362-A	46.00	Muermosa	25	19.95	5.22	8	2⅝	8⅜	1.36
201401	73.05	Effrutico	42	33.45	8.46	7	4	7 3/16	
201402	50.90	Effugio	30	23.92	6.26	7	2 11/16	7⅞	1.40
201451-A	75.00	Egarons	48	38.20	10.00	6	5 7/16	7½	
201452-A	50.00	Egarotte	33	26.26	6.89	6	2 15/16	7¼	1.45
201461-A	60.40	Effugisti	35	27.89	7.31	6½	4 9/16	7 1/16	
201462-A	41.40	Effugitos	24	19.15	5.01	6½	2 7/16	7⅜	1.46
201501	73.05	Effugiunt	42	33.45	8.76	7	5 1/16	8 1/16	
201502	48.15	Effulcrate	28	22.33	5.85	7	2½	7⅞	1.50
201503-A	52.50	Effulge	30	23.92	6.26	6	4⅜	6 15/16	
201504-A	34.70	Effulgence	20	15.98	4.18	6	1⅝	6¼	1.50
201671	70.00	Effulgent	40	31.86	8.35	7	3 13/16	6 9/16	
201672	42.40	Effulgetis	24	19.15	5.01	7	1½	7⅛	1.67
201691	76.15	Effulsio	44	35.04	9.17	7	5⅝	8¼	
201692	45.20	Effulsioni	26	20.74	5.43	7	2¼	7⅞	1.69
201761	98.85	Effultorum	60	47.77	12.50	7	6 5/16	8⅝	
201762	56.40	Effultus	34	27.09	7.10	7	2½	8⅛	1.76
201801	89.85	Effumable	54	43.00	11.25	7	6	8 5/16	
201802	50.90	Effumant	30	23.92	6.26	7	2¼	7 15/16	1.80
201801-A	93.85	Effumigare	54	43.00	11.25	8	6	8⅞	
201802-A	53.50	Effuming	30	23.92	6.26	8	2¼	8⅞	1.80
201803	106.90	Effundica	72	57.31	15.00	7	6 15/16	9 1/16	
201804	64.60	Effundir	40	31.86	8.35	7	2⅝	8¼	1.80
201931-A	47.00	Langiscas	29	23.12	6.06	5	2½	6	
201932-A	27.00	Langiscet	15	12.02	3.15	5	1⅝	5½	1.93

NOTE.—By our Machine Molding Process we can furnish Gears of any kind or dimension with comparatively small pattern expense.

For Cut Gear lists, see pages 482 to 502.

Cast Tooth Bevel Gears in Pairs

2 1-2″ Pitch—Continued

For Horse Power transmitted by Bevel Gears 2½″ pitch, see page 431.

Pattern Number	Price, Bored With K. S. Or S. S.	CODE WORD	Number of Teeth	Pitch Diam., Inches	Pitch Circum., Feet	Face, Inches	Backing, Inches	Standard Length Through Hub, Inches	Speed Ratio
201961-A	$78.00	Egauler	51	40.59	10.63	6	6¼	7¼	
201962-A	42.00	Egayantes	26	20.69	5.43	6	2	6⅜	1.96
202001	98.85	Effundo	60	47.77	12.50	7	6 9/16	8½	
202002	50.90	Effusion	30	23.92	6.26	7	2 1/16	7 15/16	2.00
202005	70.00	Effusive	40	31.86	8.35	7	5 15/16	8⅛	
202006	36.35	Effusively	20	15.98	4.18	7	1⅜	7⅜	2.00
202007	84.50	Langiscunt	50	39.82	10.42	7	5¼	7⅜	
202008	43.80	Langkopf	25	19.95	5.22	7	4 1/16	8⅞	2.00
202141	106.25	Effusoris	60	47.77	12.50	7	6¼	8	
202142	48.15	Effusorum	28	22.33	5.85	7	2	8	2.14
202311	127.80	Effuticus	74	58.90	15.42	7	7 9/16	8⅞	
202312	53.60	Effutile	32	25.51	6.68	7	1 15/16	8	2.31
202401	87.85	Effutilis	48	38.22	10.00	7	9 3/16	7 15/16	
202402	36.35	Effutilium	20	15.98	4.18	7	1¼	7⅛	2.40
202503	106.25	Efialte	60	47.77	12.50	7	7⅛	8½	
202504	42.40	Eficiencia	24	19.15	5.01	7	1⅜	7⅝	2.50
202505	77.35	Langkopfes	45	35.84	9.38	7	6	7⅝	
202506	33.45	Langkork	18	14.40	3.77	7	1½	7½	2.50
202541-A	58.00	Efigies	33	26.30	6.89	5	5 15/16	6¾	
202542-A	23.90	Eflagelle	13	10.45	2.74	5	1 3/16	5 5/16	2.54
202611-A	73.90	Efourceau	42	33.45	8.76	6	4	4 11/16	
202612-A	29.00	Efraimo	16	12.81	3.36	6	1 3/16	6¼	2.61
202841	96.85	Efusal	54	43.00	11.25	7	10 3/16	8 5/16	
202842	34.90	Egagropilo	19	15.19	3.98	7	1⅛	7 13/16	2.84
203003	124.80	Egailler	72	57.31	15.00	7	6 1/16	6 15/16	
203004	42.40	Egalement	24	19.15	5.01	7	1¼	7 11/16	3.00
203005-A	80.00	Muestran	42	33.45	8.76	8	6½	8¼	
203006-A	30.00	Muffavamo	14	11.23	2.94	8	2 9/16	9 13/16	3.00
203007	96.85	Lindenhout	54	43.00	11.25	7	6	7	
203008	33.45	Lindenzaad	18	14.40	3.77	7	2	8	3.00
203401	127.35	Egalisage	68	54.13	14.17	7	10¾	9½	
203402	36.35	Egaliser	20	15.98	4.18	7	1	7 3/16	3.40
203731	149.85	Egaliseras	82	65.27	17.09	7	8⅞	9⅛	
203732	39.25	Egalitaire	22	17.57	4.60	7	1 3/16	7½	3.73
204001	104.00	Langkorkes	64	50.93	13.34	7	7 7/16	8¼	
204002	30.60	Langkreis	16	12.73	3.36	7	1¼	8¼	4.00
204091	164.00	Linderas	90	71.63	18.76	7	8¼	9¼	
204092	39.25	Linderbar	22	17.57	4.60	7	1	7½	4.09

NOTE.—By our Machine Molding Process we can furnish Gears of any kind or dimension with comparatively small pattern expense.

For Cut Gear lists, see pages 482 to 502.

Cast Tooth Bevel Gears in Pairs

2 1-2″ Pitch—Continued

For Horse Power transmitted by Bevel Gears 2½″ pitch, see page 431.

Pattern Number	Price, Bored With K. S. Or S. S.	CODE WORD	Number of Teeth	Pitch Diam., Inches	Pitch Circum., Feet	Face, Inches	Backing, Inches	Standard Length Through Hub, Inches	Speed Ratio
204201	$153.10	Egalite	84	66.86	17.51	7	10 13/16	8 15/16	
204202	36.35	Egarerais	20	15.98	4.18	7	7/8	7¼	4.20
204841-A	262.00	Egareront	150	119.38	32.27	6	12 1/16	11½	
204842-A	49.70	Egariez	31	24.71	6.47	6	7/8	6¾	4.84
205001-A	124.00	Lindern	75	59.70	15.63	6	8 5/8	8	
205002-A	27.50	Linderung	15	12.03	3.15	6	½	6	5.00
206001	164.00	Mufferemo	90	71.63	18.76	7	10 5/8	10¼	
206002	29.10	Mufliste	15	12.03	3.15	7	¾	7¾	6.00

2 3-4″ Pitch

Cast Iron Bevel Gears 2¾″ pitch, 7½″ face, under ordinary conditions, will transmit 17.67 H. P. at 100 feet per minute on the pitch line, 26.55 H. P. at 200 feet, 32.65 H. P. at 300 feet, 47.00 H. P. at 500 feet, 65.58 H. P. at 750 feet, 79.25 H. P. at 1,000 feet, 92.10 H. P. at 1,250 feet.

Small pinions running with large gears should be cast steel for full load.

221191	$107.85	Egdauama	50	43.80	11.47	7½	5¼	8 7/8	
221192	86.30	Egelamus	42	36.80	9.64	7½	3 7/8	8¾	1.19
221251	130.65	Egelantier	60	52.55	13.76	7½	5 3/16	9¼	
221252	96.35	Egeleda	48	42.05	11.02	7½	3 7/8	8 13/16	1.25
221471	123.00	Egelgras	56	49.04	12.85	7½	6 3/16	9 1/8	
221472	79.60	Egelidamus	38	33.30	8.72	7½	3¼	8¾	1.47
221691	115.00	Egelidano	54	47.30	12.39	7½	6½	9	
221692	70.00	Egelidaram	32	28.06	7.35	7½	2 11/16	8 9/16	1.69
222501-A	122.00	Egelidas	50	43.80	11.47	8	7¼	8 15/16	
222502-A	49.35	Egelochus	20	17.58	4.60	8	1¾	8½	2.50
223061-A	120.00	Egestione	55	48.17	12.62	7	7¾	8¾	
223062-A	42.00	Egestionis	18	15.83	4.15	7	1¼	7 3/8	3.06
223941-A	162.00	Egestorum	67	58.67	15.37	7	9½	10	
223942-A	40.00	Egestosi	17	14.97	3.92	7	1	7 5/8	3.94
224001	158.50	Egentium	64	56.04	14.68	7½	8 7/8	9	
224002	39.15	Egenulorum	16	14.10	3.70	7½	15/16	7¾	4.00
224061	161.00	Mugavero	65	56.92	14.91	7½	10 7/16	8½	
224062	39.15	Mugilem	16	14.10	3.70	7½	1¼	8½	4.06
226111	240.00	Egesippe	110	96.30	25.21	7½	12 1/8	11¼	
226112	43.00	Egestas	18	15.83	4.15	7½	7/8	7 7/8	6.11

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For Cut Gear lists, see pages 482 to 502.

Cast Tooth Bevel Gears in Pairs

3″ Pitch

Cast Iron Bevel Gears 3″ pitch, 8½″ face, under ordinary conditions, will transmit 21.85 H. P. at 100 feet per minute on the pitch line, 32.8 H. P. at 200 feet, 40.4 H. P. at 300 feet, 58.1 H. P. at 500 feet, 81.1 H. P. at 750 feet, 98.0 H. P. at 1,000 feet,113.9 H. P. at 1,250 feet.

Small pinions running with large gears should be cast steel for full load.

Pattern Number	Price, Bored With K. S. Or S. S.	CODE WORD	Number of Teeth	Pitch Diam., Inches	Pitch Circum., Feet	Face, Inches	Backing, Inches	Standard Length Through Hub, Inches	Speed Ratio
241101	$129.00	Eggebalken	44	42.05	11.01	8½	5 5/16	10 1/16	
241102	109.25	Eggehaken	40	38.24	10.01	8½	4 5/8	10 1/16	1.10
241151	92.00	Eggement	30	28.70	7.52	8½	4 13/16	9¾	
241152	75.90	Eggen	26	24.89	6.52	8½	3 11/16	9⅝	1.15
241221-A	165.00	Eggerist	50	47.78	12.51	9	5 11/16	10 9/16	
241222-A	121.60	Eggerling	41	39.19	10.26	9	4	10⅜	1.22
241251-A	205.00	Eggiger	66	63.05	16.50	10	5⅝	13 15/16	
241252-A	168.00	Eggiheid	53	50.64	13.25	10	5 1/16	11 15/16	1.25
241261	153.00	Eghizar	48	45.87	12.01	8½	6	10¼	
241262	104.40	Egialus	38	36.33	9.51	8½	6½	12½	1.26
241321	160.90	Egidarmato	50	47.78	12.51	8½	5 1/16	9⅛	
241322	104.40	Egidio	38	36.33	9.51	8½	4	10	1.32
241331-A	180.00	Egifila	56	53.50	14.00	10	6¼	11	
241332-A	132.00	Egilopical	42	40.14	10.51	10	4 9/16	11¾	1.33
241351-A	90.00	Eglogiste	35	33.42	8.76	6	5 11/16	8½	
241352-A	62.00	Egloguista	26	24.83	6.50	6	3¼	8	1.35
241471	129.00	Eginetique	44	42.05	11.01	8½	5⅞	9⅝	
241472	85.25	Eginopside	30	28.70	7.52	8½	3¼	9 11/16	1.47
241473-A	66.00	Langnase	28	26.80	7.02	6	3 13/16	6	
241474-A	52.00	Langnasig	19	18.23	4.78	6	1 9/16	6	1.47
241911-A	108.00	Eglonda	44	42.02	11.01	6	7⅛	8½	
241912-A	55.00	Egmarta	23	21.96	5.77	6	2⅜	7¼	1.91
242611-A	117.00	Egmedia	47	44.88	11.76	6	7 1/16	8⅜	
242612-A	50.00	Egmira	18	17.19	4.53	6	1¾	7¼	2.61
242631	160.90	Egiochus	50	47.78	12.51	8½	8 3/16	9⅞	
242632	59.00	Egiptologo	19	18.23	4.78	8½	1 7/16	8 11/16	2.63
243001	153.00	Lindetak	48	45.87	12.01	8½	8½	10	
243002	51.00	Lindezza	16	15.38	4.03	8½	1 5/16	8⅞	3.00
243311-A	196.00	Langneuzig	63	60.18	15.77	10	9¾	11¼	
243312-A	64.00	Langobardi	19	18.23	4.78	10	1⅝	10¾	3.31
244001	170.00	Lindiorum	56	53.50	14.00	8½	10	10 11/16	
244002	46.00	Lindleye	14	13.48	3.53	8½	1¾	9¾	4.00
244101-A	300.00	Langobriga	82	78.30	20.51	9	8¼	10½	
244102-A	70.00	Langohr	20	19.18	5.03	9	1⅞	10¼	4.10
244741	300.00	Egissent	90	85.96	22.50	8½	11¾	11 9/16	
244742	59.00	Egloga	19	18.23	4.78	8½	1¼	9⅛	4.74

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For Cut Gear lists, see pages 482 to 502.

Cast Tooth Bevel Gears in Pairs

3 1-4″ Pitch

Cast Iron Bevel Gears 3¼″ pitch, 9″ face, under ordinary conditions, will transmit 25.1 H. P. at 100 feet per minute on the pitch line, 37.6 H. P. at 200 feet, 46.3 H. P. at 300 feet, 66.6 H. P. at 500 feet, 93.0 H. P. at 750 feet, 112.4 H. P. at 1,000 feet, 130.6 H. P. at 1,250 feet.

Small pinions running with large gears should be cast steel for full load.

Pattern Number	Price, Bored With K. S. Or S. S.	CODE WORD	Number of Teeth	Pitch Diam., Inches	Pitch Circum., Feet	Face, Inches	Backing, Inches	Standard Length Through Hub, Inches	Speed Ratio
261711	.....	Egeran	58	60.03	15.72	9	7½	10 9/16	
261712	.....	Eglantine	34	35.22	9.23	9	3⅜	10½	1.71
25¼4001-A	.....	Lindores	72	72.00	18.85	8	10½	11 9/16	
25¼4002-A	.....	Lineabas	18	18.00	4.71	8	2 13/16	9 13/16	4.00

3 1-2″ Pitch

Cast Iron Bevel Gears 3½″ pitch, 10″ face, under ordinary conditions, will transmit 30.0 H. P. at 100 feet per minute on the pitch line, 45.0 H. P. at 200 feet, 55.4 H. P. at 300 feet, 79.7 H. P. at 500 feet, 111.3 H. P. at 750 feet, 134.5 H. P. at 1,000 feet, 156.3 H. P. at 1,250 feet.

Small pinions running with large gears should be cast steel for full load.

281041-A	.....	Egoutier	48	53.52	14.00	8	6⅛	....	
281042-A	.....	Egouttage	46	51.29	13.42	8	5 11/16	....	1.04
281091-A	.....	Egmond	47	52.40	13.71	8	....	....	
281092-A	.....	Egnatia	43	47.95	12.54	8	5⅝	....	1.09
281101-A	.....	Egnatius	44	49.06	12.83	8	6¼	....	
281102-A	.....	Egoasinha	40	44.61	11.66	8	5 3/16	....	1.10
281103-A	.....	Egobole	32	35.71	9.34	9	5⅜	....	
281104-A	.....	Egobuer	29	32.38	8.47	9	4½	....	1.10
281105-A	.....	Egofonia	34	37.93	9.92	8	5½	....	
281106-A	.....	Egoger	31	34.59	9.05	8	4⅝	....	1.10
281221-A	.....	Egohine	28	31.26	8.18	9	5⅜	....	
281222-A	.....	Egotistical	23	25.70	6.73	9	3 13/16	....	1.22
281281-A	.....	Egoistique	36	40.16	10.50	8	6¼	....	
281282-A	.....	Egomet	28	31.26	8.18	8	4	....	1.28
281291-A	.....	Egophone	27	30.15	7.89	9	5 11/16	....	
281292-A	.....	Egopodio	21	23.49	6.14	9	3½	....	1.29
281361-A	.....	Egopogono	38	42.38	11.08	8	6⅝	....	
281362-A	.....	Egoprico	28	31.26	8.18	8	3⅞	....	1.36
281363-A	.....	Egoprosopo	30	33.48	8.76	9	6	....	
281364-A	.....	Egorgement	22	24.59	6.44	9	3 7/16	....	1.36
281671	.....	Egorgeront	30	33.48	8.76	10	6¾	....	
281672	.....	Egorgille	18	20.15	5.27	10	2 9/16	....	1.67
281731	.....	Egosiller	46	51.29	13.42	10	8⅛	....	
281732	.....	Egothesim	26	29.04	7.60	10	3	....	1.73
281871-A	.....	Egothele	30	33.48	8.76	8	7⅛	9¾	
281872-A	.....	Egotism	16	17.94	4.69	8	1⅞	8⅛	1.87
281951-A	.....	Egotistic	43	47.95	12.54	8	8¼	....	
281952-A	.....	Egotize	22	24.59	6.44	8	4 3/16	....	1.95
282001	.....	Egotizing	36	40.16	10.50	10	7⅞	11¼	
282002	.....	Egout	18	20.15	5.27	10	1 15/16	10½	2.00
284521-A	.....	Lineabimus	95	105.84	27.72	10	10	12¼	
284522-A	.....	Lineales	21	23.39	6.14	10	1½	10¾	4.52

NOTE.—By our Machine Molding Process we can furnish Gears of any kind or dimension with comparatively small pattern expense.

For Cut Gear lists, see pages 482 to 502.

Cast Tooth Bevel Gears in Pairs

4″ Pitch

Cast Iron Bevel Gears 4″ pitch, 11″ face, under ordinary conditions, will transmit 37.7 H. P. at 100 feet per minute on the pitch line, 56.6 H. P. at 200 feet, 69.7 H. P. at 300 feet, 100.2 H. P. at 500 feet, 140.0 H. P. at 750 feet, 169.0 H. P. at 1,000 feet, 196.5 H. P. at 1,250 feet.

Small pinions running with large gears should be cast steel for full load.

Pattern Number	Price, Quoted on Application	CODE WORD	Number of Teeth	Pitch Diam., Inches	Pitch Circum., Feet	Face, Inches	Backing, Inches	Standard Length Through Hub, Inches	Speed Ratio
323/41081A	.....	Egribos	43	57.33	15.02	12	6 5/8	13 9/16	
323/41082A	.....	Egrillard	40	53.33	13.97	12	3 1/8	10 3/4	1.08
321141	.....	Egraffigne	50	63.70	16.66	11	7 1/4	11 9/16	
321142	.....	Egrageure	44	56.07	14.68	11	5 7/16	12 1/4	1.14
321251-A	.....	Egrainage	30	38.26	10 02	9	6 1/2	....	
321252-A	.....	Egramente	24	30.65	8.02	9	4 1/4	....	1.25
321283-A	.....	Egraminer	32	40.81	10.69	9	6 3/4	....	
321284-A	.....	Egrappage	25	31.91	8.35	9	4 1/4	....	1.28
321331-A	.....	Lineality	52	66.25	17.33	12	9 1/4	....	
321332-A	.....	Linealium	39	49.71	13.02	12	5 3/4	....	1.33
321421-A	.....	Egrenement	44	56.07	14.68	8	9	12	
321422-A	.....	Egressao	31	39.54	10.35	8	4 3/16	....	1.42
321731	.....	Egrapper	38	48.44	12.69	11	8 1/4	12 1/2	
321732	.....	Egratigner	22	28.10	7.36	11	3	11 1/2	1.73
322141	.....	Egregiat	47	59.89	15.67	11	9 1/16	12 1/8	
322142	.....	Egregiorum	22	28.10	7.36	11	2 1/16	11 1/16	2.14
322521	.....	Egregious	58	73.88	19.33	11	10 15/16	13 5/16	
322522	.....	Egregores	23	29.38	7.69	11	5 3/8	16 3/8	2.52
324951-A	.....	Mugiras	94	119.70	31.33	9	23 1/2	18 1/2	
324952-A	.....	Mugissant	19	24.30	6.37	9	2 1/4	10 1/2	4.95

4 1-2″ Pitch

Cast Iron Bevel Gears 4 1/2″ pitch, 12″ face, under ordinary conditions, will transmit 46.3 H. P. at 100 feet per minute on the pitch line, 69.5 H. P. at 200 feet, 85.5 H. P. at 300 feet, 123.0 H. P. at 500 feet, 171.7 H. P. at 750 feet, 207.5 H. P. at 1,000 feet, 241.2 H. P. at 1,250 feet.

Small pinions running with large gears should be cast steel for full load.

353/41041A	.....	Egtanden	29	41.54	10.88	9	6	....	
353/41042A	.....	Egualendo	28	40.11	10.51	9	5 11/16	....	1.04
361111	.....	Egrisage	30	43.05	11.28	12	6 1/16	13	
361112	.....	Egritude	27	38.76	10.16	12	....	....	1.11
361231	.....	Egrotant	32	45.91	12.02	12	5 1/2	11 3/4	
361232	.....	Egsmeden	26	37.33	9.78	12	....	....	1.23
353/41381A	.....	Egualezza	33	47.27	12.40	9	7 9/16	....	
353/41382A	.....	Egualimmo	24	34.38	9.03	9	4 5/16	....	1.38
361441	.....	Egsmid	46	65.94	17.26	12	8 3/4	14 1/8	
361442	.....	Egtand	32	45.91	12.02	12	4 5/8	13 1/2	1.44
353/42001A	.....	Egualisco	36	51.56	13.51	9	9 1/2	....	
353/42002A	.....	Egualissi	18	25.78	6.75	9	2 15/16	....	2.00
353/42061A	.....	Egualito	37	53.00	13.89	9	9 5/16	....	
353/42062A	.....	Eguerunt	18	25.78	13.51	9	2 15/16	....	2.06
353/42661A	.....	Eguilles	40	57.30	15.01	9	10 11/16	....	
353/42662A	.....	Eguimus	15	21.49	5.63	9	2 1/4	....	2.66

NOTE.—By our Machine Molding Process we can furnish Gears of any kind or dimension with comparatively small pattern expense.

For Cut Gear lists, see pages 482 to 502.

Cast Tooth Bevel Gears in Pairs

5″ Pitch

Cast Iron Bevel Gears 5″ pitch, 14″ face, under ordinary conditions, will transmit 60.0 H. P. at 100 feet per minute on the pitch line, 90.1 H. P. at 200 feet, 110.8 H. P. at 300 feet, 159.5 H. P. at 500 feet, 222.6 H. P. at 750 feet, 269.0 H. P. at 1,000 feet 312.6 H. P. at 1,250 feet.

Small pinions running with large gears should be cast steel for full load.

Pattern Number	Price, Quoted on Application	CODE WORD	Number of Teeth	Pitch Diam., Inches	Pitch Circum., Feet	Face, Inches	Backing, Inches	Standard Length Through Hub, Inches	Speed Ratio
401091	.....	Eguisier	37	58.96	15.42	14	5½	13⅞	
401092	.....	Eguisti	34	54.19	14.17	14	7⅜	16¾	1.09
401311-A	.....	Egypius	42	66.85	17.51	10	9¼	....	
401312-A	.....	Egyptiaque	32	50.93	13.34	10	5⅞	....	1.31
401331	.....	Egularum	40	63.73	16.70	14	8½	15½	
401332	.....	Egurito	30	47.83	12.52	14	6	16½	1.33
401641-A	.....	Egyptien	46	73.21	19.18	10	$10\frac{13}{16}$	....	
401642-A	.....	Egyptology	28	44.56	11.67	10	4½	....	1.64

Standard Bevel Gears for Shafts at any Angle

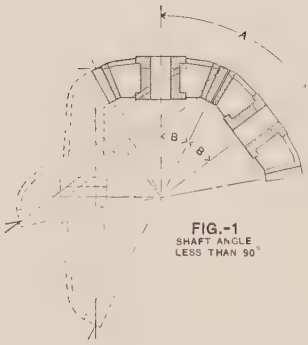

FIG.-1
SHAFT ANGLE
LESS THAN 90°

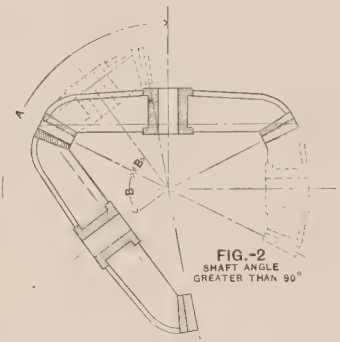

FIG.-2
SHAFT ANGLE
GREATER THAN 90°

By referring to Figures 1 and 2, it will be evident that either member of a pair of bevel gears designed to drive shafts at right angles to each other may be used as one of a pair of angle miter gears to drive shafts that intersect at some other angle.

Having given the shaft angle "A," the center angle "B" of the required gear will be ½ of the shaft angle "A."

If the shaft angle is less than 90 degrees as in Fig. 1, refer to table of natural tangents and cotangents, *find the cotangent of the angle "B."* This cotangent will be the same as the speed ratio of the required gears. Use two pinions of the pair of this speed ratio for the new angle miter gears.

EXAMPLE. Given two shafts at 43½ deg. running at 100 R. P. M. which are required to transmit 12 H. P.

The center angles of required angle miter gears will be 21¾ deg. The cotangent of 21¾ deg. is 2.50. Referring to the speed ratio column in Bevel Gear list we find that No. 162501 bevel gear (40 teeth) and No. 162502 bevel pinion (16 teeth) have a speed ratio of 2.50. Two No. 162502 bevel pinions in mesh will run at 43½ deg. delivering 12 H. P. at 100 R. P. M.

If the shaft angle is greater than 90 deg. as in Fig. 2, find the *tangent of angle "B."* This tangent will be the same as the speed ratio of the required gears; use two of the greater gears of this pair for the desired angle miter gears.

EXAMPLE. Given two shafts at 127 deg. running at 100 R. P. M. which are required to transmit 9 H.P.

The center angles of the required angle miter gears will be 63½ deg. The tangent of 63½ is 2.00. Referring to the speed ratio column in Bevel Gear List, we find that No. 122007-A bevel gear (30 teeth) and No. 122008-A bevel pinion (15 teeth) have a speed ratio of 2.00. Two No. 122007-A bevel gears in mesh will run at 127 deg. shaft angle and transmit 9 H. P. at 100 R. P. M.

NOTE.—The preceding methods will answer for all drives where both shaft speeds are the same. When speed is to be increased or decreased it is preferable to change speed by the addition of another shaft and the use of spur gear, chain or belt drive. It is almost impossible to find an angle bevel gear drive, for increasing or decreasing speeds direct from any standard bevel gear list, and it often leads to trouble, as different shaped teeth are apt to be selected in making up such a drive.

Table of Tangents and Cotangents

Deg.	TANGENT 0′	15′	30′	45′	60′		Deg.	COTANGENT 0′	15′	30′	45′	60′	
0	0.0000	0.0043	0.0087	0.0130	0.0174	89	0	Infin.	229.182	114.588	76.3900	57.2899	89
1	0.0174	0.0218	0.0261	0.0305	0.0349	88	1	57.289	45.8294	38.1884	32.7303	28.6362	88
2	0.0349	0.0392	0.0436	0.0480	0.0524	87	2	28.636	25.4517	22.9037	20.8188	19.0811	87
3	0.0524	0.0567	0.0611	0.0655	0.0699	86	3	19.081	17.6106	16.3498	15.2571	14.3006	86
4	0.0699	0.0743	0.0787	0.0830	0.0874	85	4	14.300	13.4566	12.7062	12.0346	11.4300	85
5	0.0874	0.0918	0.0962	0.1006	0.1051	84	5	11.430	10.8829	10.3854	9.9310	9.5143	84
6	0.1051	0.1095	0.1139	0.1183	0.1227	83	6	9.5143	9.1309	8.7768	8.4489	8.1443	83
7	0.1227	0.1272	0.1316	0.1360	0.1405	82	7	8.1443	7.8606	7.5957	7.3478	7.1153	82
8	0.1405	0.1449	0.1494	0.1539	0.1583	81	8	7.1153	6.8968	6.6911	6.4971	6.3137	81
9	0.1583	0.1628	0.1673	0.1718	0.1763	80	9	6.3137	6.1402	5.9757	5.8196	5.6712	80
10	0.1763	0.1808	0.1853	0.1898	0.1943	79	10	5.6712	5.5300	5.3955	5.2671	5.1445	79
11	0.1943	0.1989	0.2034	0.2080	0.2125	78	11	5.1445	5.0273	4.9151	4.8076	4.7046	78
12	0.2125	0.2171	0.2216	0.2262	0.2308	77	12	4.7046	4.6057	4.5107	4.4193	4.3314	77
13	0.2308	0.2354	0.2400	0.2447	0.2493	76	13	4.3314	4.2468	4.1653	4.0866	4.0107	76
14	0.2493	0.2539	0.2586	0.2632	0.2679	75	14	4.0107	3.9375	3.8667	3.7982	3.7320	75
15	0.2679	0.2726	0.2773	0.2820	0.2867	74	15	3.7320	3.6679	3.6058	3.5457	3.4874	74
16	0.2867	0.2914	0.2962	0.3009	0.3057	73	16	3.4874	3.4308	3.3759	3.3226	3.2708	73
17	0.3057	0.3105	0.3153	0.3201	0.3249	72	17	3.2708	3.2205	3.1715	3.1240	3.0776	72
18	0.3249	0.3297	0.3346	0.3394	0.3443	71	18	3.0776	3.0326	2.9886	2.9459	2.9042	71
19	0.3443	0.3492	0.3541	0.3590	0.3639	70	19	2.9042	2.8635	2.8239	2.7852	2.7474	70
20	0.3639	0.3689	0.3738	0.3788	0.3838	69	20	2.7474	2.7106	2.6746	2.6394	2.6050	69
21	0.3838	0.3888	0.3939	0.3989	0.4040	68	21	2.6050	2.5715	2.5386	2.5065	2.4750	68
22	0.4040	0.4091	0.4142	0.4193	0.4244	67	22	2.4750	2.4443	2.4142	2.3847	2.3558	67
23	0.4244	0.4296	0.4348	0.4400	0.4452	66	23	2.3558	2.3275	2.2998	2.2726	2.2460	66
24	0.4452	0.4504	0.4557	0.4610	0.4663	65	24	2.2460	2.2199	2.1943	2.1691	2.1445	65
25	0.4663	0.4716	0.4769	0.4823	0.4877	64	25	2.1445	2.1203	2.0965	2.0732	2.0503	64
26	0.4877	0.4931	0.4985	0.5040	0.5095	63	26	2.0503	2.0278	2.0056	1.9839	1.9626	63
27	0.5095	0.5150	0.5205	0.5261	0.5317	62	27	1.9626	1.9416	1.9209	1.9006	1.8807	62
28	0.5317	0.5373	0.5429	0.5486	0.5543	61	28	1.8807	1.8610	1.8417	1.8227	1.8040	61
29	0.5543	0.5600	0.5657	0.5715	0.5773	60	29	1.8040	1.7856	1.7674	1.7496	1.7320	60
30	0.5773	0.5831	0.5890	0.5949	0.6008	59	30	1.7320	1.7147	1.6976	1.6808	1.6642	59
31	0.6008	0.6068	0.6128	0.6188	0.6248	58	31	1.6642	1.6479	1.6318	1.6159	1.6003	58
32	0.6248	0.6309	0.6370	0.6432	0.6494	57	32	1.6003	1.5849	1.5696	1.5546	1.5398	57
33	0.6494	0.6556	0.6618	0.6681	0.6745	56	33	1.5398	1.5252	1.5108	1.4966	1.4825	56
34	0.6745	0.6808	0.6872	0.6937	0.7002	55	34	1.4825	1.4687	1.4550	1.4414	1.4281	55
35	0.7002	0.7067	0.7132	0.7199	0.7265	54	35	1.4281	1.4149	1.4019	1.3890	1.3763	54
36	0.7265	0.7332	0.7399	0.7467	0.7535	53	36	1.3763	1.3638	1.3514	1.3391	1.3270	53
37	0.7535	0.7604	0.7673	0.7742	0.7812	52	37	1.3270	1.3150	1.3032	1.2915	1.2799	52
38	0.7812	0.7883	0.7954	0.8025	0.8097	51	38	1.2799	1.2684	1.2571	1.2459	1.2349	51
39	0.8097	0.8170	0.8243	0.8316	0.8391	50	39	1.2349	1.2239	1.2131	1.2023	1.1917	50
40	0.8391	0.8465	0.8540	0.8616	0.8692	49	40	1.1917	1.1812	1.1708	1.1605	1.1503	49
41	0.8692	0.8769	0.8847	0.8925	0.9004	48	41	1.1503	1.1402	1.1302	1.1204	1.1106	48
42	0.9004	0.9083	0.9163	0.9243	0.9325	47	42	1.1106	1.1009	1.0913	1.0817	1.0723	47
43	0.9325	0.9407	0.9489	0.9572	0.9656	46	43	1.0723	1.0630	1.0537	1.0446	1.0355	46
44	0.9656	0.9741	0.9827	0.9913	1.0000	45	44	1.0355	1.0265	1.0176	1.0087	1.0000	45
	60′	45′	30′	15′	0′	Deg.		60′	45′	30′	15′	0′	Deg.
	COTANGENT							TANGENT					

For cotangents 45° to 90° read upwards.

For tangents 45° to 90° read upwards.

Cast Tooth Miter Gears

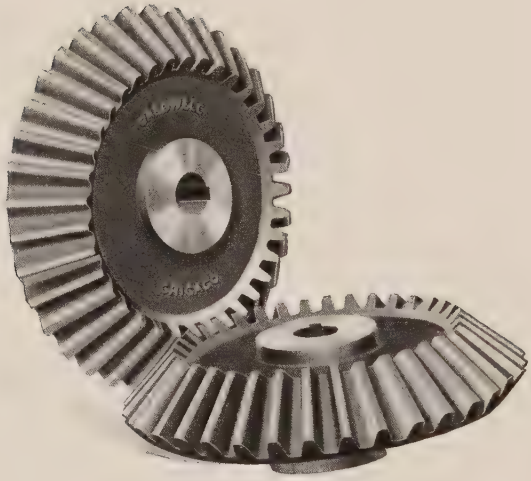

Fig. 45442. (*Lazarets*)

Cast Iron Cast Tooth Miter Gears shown in the following list will be furnished bored and keyseated or setscrewed, with back of hub faced, at the prices named.

Special Miter Gears can be furnished to replace old or broken gears, with comparatively slight pattern expense, by the Machine Molding Process. See page 371 for information required.

For very heavy drives, Cast Steel Miter Gears can be furnished. Prices on application.

Cut Tooth Miter Gears listed on pages 499 to 502.

In telegraphing, use code for bores on page 372.

Cast Tooth Miter Gears

5/8″ Pitch

Pattern Number	Price Bored With K. S. Or S. S.	CODE WORD	Number of Teeth	Pitch Diam., Inches	Pitch Circum., Feet	Face, Inches	Backing, Inches	Standard Length Through Hub, Inches	Type of Gears
*3⅝21	$3.00	Ehebund	21	4.19	1.098	1	1	1¾	Miter

3/4″ Pitch

*3¾18	$2.90	Ehefrau	18	4.32	1.132	1¾	½	1⅞	Miter
6021-A	3.15	Ehegatte	21	5.03	1.317	1½	11/16	1⅝	Miter
6033-A	4.35	Mugitoris	33	7.89	2.065	1½	⅝	2⅝	Miter
*3¾42	5.20	Ehegeld	42	10.04	2.630	1¾	1⅛	2⅜	Miter

7/8″ Pitch

*3⅞30	$4.60	Ehegemahl	30	8.37	2.193	2	1½	3	Miter
7040	5.75	Ehegenosse	40	11.15	2.869	2	1⅜	2⅜	Miter

1″ Pitch

Cast Iron Miter Gears 1″ pitch, 2½″ face, under ordinary conditions, will transmit 2.14 H. P. at 100 feet per minute on the pitch line, 3.22 H. P. at 200 feet, 3.96 H. P. at 300 feet, 5.70 H. P. at 500 feet, 7.95 H. P. at 750 feet, 9.60 H. P. at 1,000 feet, 11.16 H. P. at 1,250 feet.

*3119	$3.80	Ehegericht	19	6.05	1.592	2¼	⅝	2¼	Miter
8020-A	3.90	Ehegespons	20	6.39	1.673	2	1⅛	2 3/16	Miter
8020-A	3.90	Ehegestern	20	6.39	1.673	2	1⅛	2 3/16	Hunting
8021-A	4.05	Ehejoch	21	6.71	1.757	2	1 3/16	2¼	Tooth
8021-A	4.05	Eheklage	21	6.71	1.757	2	1 3/16	2¼	Miter
8021-A	4.05	Eheleben	21	6.71	1.757	2	1 3/16	2¼	Hunting
8022-A	4.15	Eheleute	22	7.03	1.840	2	1⅛	2¼	Tooth
8022-A	4.15	Ehelos	22	7.03	1.840	2	1⅛	2¼	Miter
8021	4.10	Ehemais	21	6.71	1.757	2½	1 3/16	2¾	Miter
8021	4.10	Ehemann	21	6.71	1.757	2½	1 3/16	2¾	Hunting
8022	4.20	Ehepaar	22	7.03	1.840	2½	1⅛	2 5/16	Tooth
8022	4.20	Ehepfand	22	7.03	1.840	2½	1⅛	2 5/16	Miter
*3125	4.60	Eheschatz	25	7.96	2.090	2¼	1	2⅜	Miter
8025	4.65	Eheschmied	25	7.98	2.090	2½	1⅜	2¾	Miter
8029	5.20	Eheschuld	29	9.25	2.422	2½	1⅜	2¾	Miter
8029	5.20	Ehestifter	29	9.25	2.422	2½	1⅜	2¾	Hunting
8030	5.40	Ehestunde	30	9.57	2.505	2½	1½	2⅞	Tooth
8030	5.40	Ehevater	30	9.57	2.505	2½	1½	2⅞	Miter
8030	5.40	Ehevogt	30	9.57	2.505	2½	1½	2⅞	Hunting
8031	5.50	Eheweib	31	9.88	2.587	2½	1 9/16	3⅛	Tooth
8031	5.50	Ehewunsch	31	9.88	2.587	2½	1 9/16	3⅛	Miter
8031	5.50	Ehodum	31	9.88	2.587	2½	1 9/16	3⅛	Hunting
8032	5.65	Ehontement	32	10.20	2.670	2½	1½	3¼	Tooth
8032	5.65	Ehoupper	32	10.20	2.670	2½	1½	3¼	Miter
8033	5.80	Langohrig	33	10.52	2.754	2½	1⅞	3 7/16	Miter
*3137	6.35	Ehrbarer	37	11.78	3.086	2¼	1	2 15/16	Miter
8038	6.50	Ehrenamt	38	12.11	3.170	2½	1⅞	2 15/16	Miter

NOTE.—By our Machine Molding Process we can furnish Gears of any kind or dimension with comparatively small pattern expense.

For Cut Gear lists, see pages 482 to 502.

Cast Tooth Miter Gears

1″ Pitch—Continued

For Horse Power transmitted by Miter Gears 1″ pitch, see page 441.

Pattern Number	Price, Bored With K. S. Or S. S.	CODE WORD	Number of Teeth	Pitch Diam., Inches	Pitch Circum., Feet	Face, Inches	Backing, Inches	Standard Length Through Hub, Inches	Type of Gears
8043	$7.20	Ehrenbahn	43	13.70	3.587	2½	1 11/16	3 3/16	Miter
8043	7.20	Ehrenbett	43	13.70	3.587	2½	1 11/16	3 3/16	Hunting
8044	7.35	Ehrenbild	44	14.02	3.670	2½	1 11/16	3 11/16	Tooth
8044	7.35	Ehrenbogen	44	14.02	3.670	2½	1 11/16	3 11/16	Miter
*3144	7.35	Landjobber	44	14.02	3.670	2½	1 11/16	3 11/16	Miter

1 1/8″ Pitch

Cast Iron Miter Gears, 1⅛″ pitch, 3″ face, under ordinary conditions, will transmit 2.89 H. P. at 100 feet per minute on the pitch line, 4.34 H. P. at 200 feet, 5.34 H. P. at 300 feet, 7.69 H. P. at 500 feet, 10.73 H. P. at 750 feet, 12.97 H. P. at 1,000 feet, 15.07 H. P. at 1,250 feet.

9023	$6.05	Ehrengabe	23	8.26	2.164	3	1½	3½	Miter
9029	7.25	Ehrengift	29	10.40	2.724	3	1⅝	3¼	Miter
*31⅛30	7.40	Ehrengrab	30	10.76	2.818	2½	1	2¾	Miter
9034	8.30	Ehrenhaft	34	12.19	3.193	3	1⅝	3¼	Miter
9034	8.30	Ehrenkampf	34	12.19	3.193	3	1⅝	3¼	Hunting
9035	8.50	Ehrenkette	35	12.55	3.285	3	1⅝	3½	Tooth
9035	8.50	Ehrenkranz	35	12.55	3.285	3	1⅝	3½	Miter
9039	9.30	Ehrenkreuz	39	13.98	3.660	3	1⅞	3¾	Miter
9050	11.55	Ehrenkrone	50	17.92	4.690	3	2 1/16	3 15/16	Miter
*31⅛55	12.50	Ehrenlied	55	19.71	5.157	3	1½	3⅝	Miter

1 1/4″ Pitch

Cast Iron Miter Gears 1¼″ pitch, 3½″ face, under ordinary conditions, will trans mit 3.75 H. P. at 100 feet per minute on the pitch line, 5.63 H. P. at 200 feet, 6.93 H. P. at 300 feet, 9.96 H. P. at 500 feet, 13.91 H. P. at 750 feet, 16.81 H. P. at 1,000 feet, 19.54 H. P. at 1,250 feet.

10019-A	$6.45	Ehrenlohn	19	7.59	1.99	2¼	1 7/16	2 9/16	Miter
*31¼20	6.80	Langonem	20	7.99	2.09	3	1 5/16	3 5/16	Miter
10020-A	6.80	Ehrenluege	20	7.99	2.09	3	1 5/16	3 5/16	Miter
10020-A	6.80	Ehrenmahl	20	7.99	2.09	3	1 5/16	3 5/16	Hunting
10021-A	7.05	Ehrenmann	21	8.39	2.19	3	1 9/16	3 5/16	Tooth
10021-A	7.05	Ehrenmusik	21	8.39	2.19	3	1 9/16	3 5/16	Miter
10024	7.90	Ehrenpaar	24	9.58	2.50	3½	1 11/16	3 13/16	Miter
10024-A	7.85	Ehrenplatz	24	9.58	2.50	3	1⅝	3¼	Miter
*31¼25	8.20	Ehrenpunkt	25	9.97	2.61	3¼	1	3 7/16	Miter
10025-A	8.15	Ehrenrauch	25	9.97	2.61	2½	1⅛	2 9/16	Miter
10027	8.70	Ehrenrecht	27	10.77	2.82	3½	1 13/16	3 13/16	Miter
10027	8.70	Ehrenreim	27	10.77	2.82	3½	1 13/16	3 13/16	Hunting
10028	8.95	Ehrenrock	28	11.16	2.92	3½	1¾	3¾	Tooth
10028	8.95	Ehrenruf	28	11.16	2.92	3½	1¾	3¾	Miter
*31¼36	10.95	Ehrensaal	36	14.34	3.75	3	2	4¼	Miter
10036	11.05	Ehrensitz	36	14.34	3.75	3½	1⅛	4⅛	Miter
*31¼40	12.00	Ehrenstamm	40	15.93	4.17	3	1½	3½	Miter
10040	12.05	Ehrensold	40	15.93	4.17	3½	2⅛	4	Miter
10045	13.35	Ehrenstufe	45	17.92	4.69	3½	2⅛	4¼	Miter
10045	13.35	Ehrentag	45	17.92	4.69	3½	2⅛	4¼	Hunting
10046	13.65	Ehrentanz	46	18.32	4.79	3½	2⅛	4¼	Tooth

NOTE.—By our Machine Molding Process we can furnish Gears of any kind or dimension with comparatively small pattern expense.

For Cut Gear lists, see pages 482 to 502.

Cast Tooth Miter Gears

1¼" Pitch—Continued

For Horse Power transmitted by Miter Gears 1¼" pitch, see page 442.

Pattern Number	Price, Bored With K. S. Or S. S.	CODE WORD	Number of Teeth	Pitch Diam., Inches	Pitch Circum., Feet	Face, Inches	Backing, Inches	Standard Length Through Hub, Inches	Type of Gears
10046	$13.65	Ehrenthat	46	18.32	4.79	3½	2⅜	4¼	Miter
*31¼48	14.05	Ehrentheil	48	19.11	5.00	3¼	1¾	4	Miter
10050	14.60	Ehrenthron	50	19.91	5.21	3½	2⅜	4½	Miter
10050	14.60	Ehrentitel	50	19.91	5.21	3½	2⅜	4½	Hunting
10051	14.85	Ehrentod	51	20.30	5.31	3½	2 5/16	4⅜	Tooth
10051	14.85	Ehrenvoll	51	20.30	5.31	3½	2 5/16	4⅜	Miter
*31¼56	16.00	Ehrenwache	56	22.30	5.84	3¼	2	4 7/16	Miter
10060	17.10	Ehrenwein	60	23.88	6.25	3½	2	4 1/16	Miter
*31¼66	18.50	Ehrenwort	66	26.27	6.88	3¼	2	4⅜	Miter

1 3/8" Pitch

Cast Iron Miter Gears 1⅜" pitch, 3½" face, under ordinary conditions will transmit 4.13 H. P. at 100 feet per minute on the pitch line, 6.20 H. P. at 200 feet, 7.62 H P. at 300 feet, 10.96 H. P. at 500 feet, 15.30 H. P. at 750 feet, 18.50 H. P. at 1,000 feet, 21.50 H. P. at 1,250 feet.

11022-A	$ 8.70	Ehrenzeit	22	9.66	2.53	3	1⅞	3 15/16	Miter
11027-A	10.20	Mugliava	27	11.84	3.10	3	1 7/16	3⅛	Miter
11030	11.30	Ehrfurcht	30	13.15	3.44	3½	2⅛	4	Miter
11035	12.75	Ehrgeiz	35	15.34	4.02	3½	2⅛	4¼	Miter
11038	13.65	Ehrgeizig	38	16.65	4 36	3½	2⅛	4¼	Miter

1 1/2" Pitch

Cast Iron Miter Gears 1½" pitch, 4" face, under ordinary conditions, will transmit 5.14 H. P at 100 feet per minute on the pitch line, 7.72 H. P. at 200 feet, 9.50 H. P. at 300 feet, 13.67 H. P. at 500 feet, 19.08 H. P. at 750 feet, 23.05 H. P. at 1,000 feet, 26.80 H. P. at 1,250 feet.

12016-A	$ 8.40	Langonis	16	7.69	2.02	2¾	1½	3¼	Miter
12019-A	9.75	Langosco	19	9.11	2.39	3¼	1 3/16	3 1/16	Miter
12021-A	10.80	Ehrlich	21	10.06	2.63	3½	1½	3¾	Miter
12021-A	10.80	Ehrliebig	21	10.06	2.63	3½	1½	3¾	Hunting
12022-A	11.25	Ehrsucht	22	10.54	2.76	3½	1¾	3¾	Tooth
12022-A	11.25	Ehrtrieb	22	10.54	2.76	3½	1¾	3¾	Miter
12024	12.15	Eiagada	24	11.49	3.01	4	1⅞	4¼	Miter
12025	12.55	Langostas	25	11.97	3.13	4	2¼	4¼	Miter
12028-A	13.30	Eibisch	28	13.40	3.51	3	2¼	3 15/16	Miter
12028	13.75	Eichapfel	28	13.40	3.51	4	2⅛	4⅜	Miter
12028	13.75	Eichelganz	28	13.40	3.51	4	2⅛	4⅜	Hunting
12029	14.15	Eichelmast	29	13.87	3.63	4	2⅛	4⅜	Tooth
12029	14.15	Eichelmaus	29	13.87	3.63	4	2⅛	4⅜	Miter
12032	15.35	Eichelnapf	32	15.30	4 00	4	2¼	4 1/16	Miter
12032	15.35	Eichen	32	15.30	4.00	4	2¼	4 1/16	Hunting
12033	15.75	Eichenast	33	15.78	4.13	4	2 5/16	4⅞	Tooth
12033	15.75	Eichenhain	33	15.78	4.13	4	2 5/16	4⅞	Miter
12037	17.35	Eichenlaub	37	17.69	4.63	4	2 7/16	5	Miter
12037	17.35	Eichenlohe	37	17.69	4.63	4	2 7/16	5	Hunting
12038	17.80	Eichenmoos	38	18.16	4.75	4	2 5/16	4 1/16	Tooth

NOTE.—By our Machine Molding Process we can furnish Gears of any kind or dimension with comparatively small pattern expense.

For Cut Gear lists, see pages 482 to 502.

Cast Tooth Miter Gears

1 1-2″ Pitch

For Horse Power transmitted by Miter Gears 1½″ pitch, see page 443.

Pattern Number	Price, Bored With K. S. Or S. S.	CODE WORD	Number of Teeth	Pitch Diam., Inches	Pitch Circum., Feet	Face, Inches	Backing, Inches	Standard Length Through Hub, Inches	Type of Gears
12038	$17.80	Eichennest	38	18.16	4.75	4	2 5/16	4 11/16	Miter
12041	18.95	Eichenreis	41	19.60	5.13	4	2½	4⅞	Miter
12041	18.95	Eichenrose	41	19.60	5.13	4	2½	4⅞	Hunting
12042	19.30	Eichenwald	42	20.07	5.26	4	2½	4 15/16	Tooth
12042	19.30	Eichhase	42	20.07	5.26	4	2½	4 15/16	Miter
*31½42	19.30	Langostino	42	20.07	5.26	4	2½	5¼	Miter
12049	22.05	Eichhorn	49	23.41	6.13	4	2⅝	4 15/16	Miter
12049	22.05	Eichkatze	49	23.41	6.13	4	2⅝	4 15/16	Hunting
12050	22.40	Eichkranz	50	23.89	6.25	4	2 11/16	5	Tooth
12050	22.40	Eichnuss	50	23.89	6.25	4	2 11/16	5	Miter
*31½55	24.30	Eichochs	55	26.27	6.87	4	2	5	Miter
12063	27.20	Eichstab	63	30.09	7.87	4	2 15/16	5¼	Miter

1 5-8″ Pitch

Cast Iron Miter Gears, 1⅝″ pitch, 4½″ face, under ordinary conditions, will transmit 6.26 H. P. at 100 feet per minute on the pitch line, 9.41 H. P. at 200 feet, 11.58 H. P. at 300 feet, 16.66 H. P. at 500 feet, 23.24 H. P. at 750 feet, 28.09 H. P. at 1000 feet, 32.65 H. P. at 1,250 feet.

13020-A	$12.95	Eichtraube	20	10.39	2.72	4	1½	3⅞	Miter
13022-A	14.05	Eicumus	22	11.42	2.99	4	2	4¼	Miter
13022-A	14.05	Eidechse	22	11.42	2.99	4	2	4¼	Hunting
13023-A	14.60	Eiderbett	23	11.93	3.12	4	2	4¼	Tooth
13023-A	14.60	Eiderdaune	23	11.93	3.12	4	2	4¼	Miter
13027-A	16.80	Langoston	27	14.00	3.67	4	2⅛	4⅝	Miter
13030	18.40	Eiderdons	30	15.55	4.08	4½	2 5/16	5⅛	Miter
13033	19.95	Eiderdans	33	17.09	4.48	4½	2¼	5¼	Miter
13033	19.95	Eidervogel	33	17.09	4.48	4½	2¼	5¼	Hunting
13034	20.45	Eidesmann	34	17.61	4.61	4½	2⅜	5⅛	Tooth
13034	20.45	Eidfest	34	17.61	4.61	4½	2⅜	5⅛	Miter
13040	23.45	Eidgenosse	40	20.71	5.42	4½	2 9/16	5 5/16	Miter
13043	24.95	Eidgesell	43	22.26	5.82	4½	2 11/16	5 5/16	Miter
13046-A	27.50	Lineament	46	23.81	6.24	5	2⅞	6	Miter
13055	30.60	Eidiertje	55	28.46	7.45	4½	3	5⅝	Miter
13055	30.60	Eidograph	55	28.46	7.45	4½	3	5⅝	Hunting
13056	31.05	Eidolon	56	28.98	7.59	4½	2 15/16	5½	Tooth
13056	31.05	Eidopsare	56	28.98	7.59	4½	2 15/16	5½	Miter

1 3-4″ Pitch

Cast Iron Miter Gears 1¾″ pitch, 5″ face, under ordinary conditions, will transmit 7.50 H. P. at 100 feet per minute on the pitch line, 11.26 H. P. at 200 feet, 13.85 H. P. at 300 feet, 19.93 H. P. at 500 feet, 27.82 H. P. at 750 feet, 23.62 H. P. at 1,000 feet, 39.08 H. P. at 1,250 feet.

14020-B	$15.00	Eifropfer	20	11.19	2.93	3	1½	3	Miter
14020-A	16.00	Eidotrope	20	11.19	2.93	4½	1½	4½	Miter
14020-A	16.00	Eiferheiss	20	11.19	2.93	4½	1½	4½	Hunting
14021-A	16.65	Eiferleibe	21	11.74	3.07	4½	1 15/16	4⅞	Tooth
14021-A	16.65	Eifermuth	21	11.74	3.07	4½	1 15/16	4⅞	Miter

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For Cut Gear lists, see pages 482 to 502.

Cast Tooth Miter Gears

1 3-4″ Pitch—Continued

For Horse Power transmitted by Miter Gears 1¾″ pitch, see page 444.

Pattern Number	Price, Bored With K. S. Or S. S.	CODE WORD	Number of Teeth	Pitch Diam., Inches	Pitch Circum., Feet	Face, Inches	Backing, Inches	Standard Length Through Hub, Inches	Type of Gears
14022-A	$17.10	Eifersucht	22	12.30	3.22	3½	1⅞	3⅝	Miter
14024	18.75	Eifervoll	24	13.41	3.51	5	2¼	5¼	Miter
14024	18.75	Eifrig	24	13.41	3.51	5	2¼	5¼	Hunting
14025	19.30	Eifriger	25	13.96	3.65	5	2¼	5¼	Tooth
14025	19.30	Eifrigsten	25	13.96	3.65	5	2¼	5¼	Miter
14027	20.60	Eigenares	27	15.07	3.94	5	2½	5	Miter
14027	20.60	Eigenart	27	15.07	3.94	5	2½	5	Hunting
14028	21.25	Eiganartig	28	15.63	4.09	5	2⅜	5¼	Tooth
14028	21.25	Eigenbatig	28	15.63	4.09	5	2⅜	5¼	Miter
14032-A	23.60	Eigenbaat	32	17.85	4.67	4½	2 7/16	5⅛	Miter
14032	23.85	Eigendom	32	17.85	4.67	5	2⅝	5½	Miter
14032	23.85	Eigendunk	32	17.85	4.67	5	2⅝	5½	Hunting
14033	24.50	Eigenen	33	18.41	4.81	5	2⅝	5½	Tooth
14033	24.50	Eigengrund	33	18.41	4.81	5	2⅝	5½	Miter
14036	26.35	Eigengut	36	20.08	5.25	5	2¾	5 13/16	Miter
14036	26.35	Eigenheit	36	20.08	5.25	5	2¾	5 13/16	Hunting
14037	26.95	Eigenhilfe	37	20.64	5.40	5	2¾	5¾	Tooth
14037	26.95	Eigening	37	20.64	5.40	5	2¾	5¾	Miter
14045	31.70	Eigenleben	45	25.09	6.56	5	3 1/16	6	Miter
14045	31.70	Eigenlob	45	25.09	6.56	5	3 1/16	6	Hunting
14046	32.35	Eigenmacht	46	25.64	6.71	5	2 15/16	5 15/16	Tooth
14046	32.35	Eigenname	46	25.64	6.71	5	2 15/16	5 15/16	Miter
14050-A	34.00	Langouste	50	27.87	7.30	4½	3⅛	5⅝	Miter
14058	39.10	Eigennatur	58	32.32	8.46	5	3¼	6⅛	Miter

2″ Pitch

Cast Iron Miter Gears 2″ pitch, 5½″ face, under ordinary conditions, will transmit 9.43 H. P. at 100 feet per minute on the pitch line, 14.16 H. P. at 200 feet, 17.41 H. P. at 300 feet, 25.06 H. P. at 500 feet, 34.98 H. P. at 750 feet, 42.26 H. P. at 1,000 feet, 49.13 H. P. at 1,250 feet.

16020-A	$22.40	Eigennutz	20	12.78	3.35	5	2	5	Miter
16024	25.95	Eigenrache	24	15.32	4.01	5½	1¼	5¾	Miter
16024	25.95	Eigenruhn	24	15.32	4.01	5½	1¼	5¾	Hunting
16025	26.70	Eigenschap	25	15.96	4.18	5½	3	6 3/16	Tooth
16025	26.70	Eigensinn	25	15.96	4.18	5½	3	6 3/16	Miter
16025	26.70	Eigentlich	25	15.96	4.18	5½	3	6 3/16	Hunting
16026	27.60	Eigenwaan	26	16.59	4.35	5½	2¾	6	Tooth
16026	27.60	Eigenwelt	26	16.59	4.35	5½	2¾	6	Miter
16028	29.30	Eigenwerth	28	17.86	4.67	5½	2 13/16	6	Miter
16030-A	31.00	Lineandam	30	19.13	5.01	5	5¼	8¼	Miter
16034	34.10	Eigenwille	34	21.68	5.67	5½	3⅛	6 9/16	Miter
16034	34.10	Eightly	34	21.68	5.67	5½	3⅛	6 9/16	Hunting
16035	35.00	Egilbert	35	22.31	5.84	5½	3⅛	6½	Tooth
16035	35.00	Egilwich	35	22.31	5.84	5½	3⅛	6½	Miter
* 3238	37.80	Eihaut	38	24.22	6.34	6	2½	7	Miter
16038	37.20	Eikeblad	38	24.22	6.34	5½	3¼	6⅝	Miter
16038	37.20	Eikeboom	38	24.22	6.34	5½	3¼	6⅝	Hunting
16039	38.00	Eikeboomen	39	24.85	6.51	5½	2 15/16	6¼	Tooth

NOTE.—By our Machine Molding Process we can furnish Gears of any kind or dimension with comparatively small pattern expense.

For Cut Gear lists, see pages 482 to 502.

Cast Tooth Miter Gears

2″ Pitch—Continued

For Horse Power transmitted by Miter Gears 2″ pitch, see page 445.

Pattern Number	Price, Bored With K. S. Or S. S.	CODE WORD	Number of Teeth	Pitch Diam., Inches	Pitch Circum., Feet	Face, Inches	Backing, Inches	Standard Length Through Hub, Inches	Type of Gears
16039	$38.00	Eikekrans	39	24.85	6.51	5½	2 15/16	6¼	Miter
16038-A	40.80	Eikekroom	38	24.22	6.34	7	3⅛	7⅝	Miter
16038-A	40.80	Eikelaars	38	24.22	6.34	7	3⅛	7⅝	Hunting
16039-A	41.90	Eikeldop	39	24.85	6.51	7	2⅞	7⅜	Tooth
16039-A	41.90	Eikeloof	39	24.85	6.51	7	2⅞	7⅜	Miter
16041	39.60	Eikeloogst	41	26.13	6.84	5½	2¾	6	Miter
16047	44.00	Eikels	47	29.94	7.84	5½	3	6¼	Miter
16047	44.00	Eikelsteen	47	29.94	7.84	5½	3	6¼	Hunting
16048	44.75	Eikeltjes	48	30.58	8.01	5½	3 9/16	6¾	Tooth
16048	44.75	Eikenappel	48	30.58	8.01	5½	3 9/16	6¾	Miter
16050	46.20	Eikenbast	50	31.85	8.34	5½	3½	7½	Miter
*3250	47.95	Eikenbosch	50	31.85	8.34	6	2½	6¾	Miter
16055	49.90	Eikenhout	55	35.03	9.17	5½	3¾	6 15/16	Miter
16055	49.90	Eikenlaan	55	35.03	9.17	5½	3¾	6 15/16	Hunting
16056	50.50	Eikenmos	56	35.67	9.34	5½	3¾	7	Tooth
16056	50.50	Eikenplant	56	35.67	9.34	5½	3¾	7	Miter
16066	57.50	Eikenvaren	66	42.03	11.00	5½	4⅛	7¼	Miter

2 1/4″ Pitch

Cast Iron Miter Gears 2¼″ pitch, 6½″ face, under ordinary conditions, will transmit 12.53 H. P at 100 feet per minute on the pitch line, 18 83 H. P. at 200 feet, 23.15 H. P. at 300 feet, 33.31 H. P. at 500 feet, 46.50 H. P. at 750 feet, 56.20 H. P. at 1,000 feet, 65.30 H. P. at 1,250 feet.

18017-A	$24.70	Langpoot	17	12.24	3.20	5	1¾	4 13/16	Miter
18018-A	25.85	Langpooten	18	12.96	3.39	5	1 13/16	4⅝	Miter
18020-A	28.15	Langravio	20	14.38	3.76	4	2¾	4¾	Miter
*32¼22	31.75	Eikenwoud	22	15.81	4.14	6	3	6⅝	Miter
18022-A	30.45	Eikon	22	15.81	4.14	5	1½	4¼	Miter
18022-B	29.45	Eilaender	22	15.81	4.14	4¼	2	4¾	Miter
18025	35.35	Eilamides	25	17.95	4.70	6½	3	7 3/16	Miter
18028	38.95	Eiland	28	20.10	5.26	6½	3¼	7 5/16	Miter
18030	41.25	Eilandjes	30	21.52	5.64	6½	2¼	6	Miter
18032	43.55	Eilbote	32	22.95	6.01	6½	2⅜	6½	Miter
18032	43.55	Eilmarsch	32	22.95	6.01	6½	2⅜	6½	Hunting
18033	44.50	Eiloof	33	23.67	6.20	6½	3¼	7¼	Tooth
18033	44.50	Eilpost	33	23.67	6.20	6½	3¼	7¼	Miter
18033	44.50	Eilritt	33	23.67	6.20	6½	3¼	7¼	Hunting
18034	45.65	Eilwagen	34	24.39	6.39	6½	3⅝	7 13/16	Tooth
18034	45.65	Eilzug	34	24.39	6.39	6½	3⅝	7 13/16	Miter
18036	47.85	Eimer	36	25.82	6.76	6½	3 9/16	7½	Miter
18042	54.20	Eimerbank	42	30.11	7.88	6½	3 5/16	7¼	Miter
18042	54.20	Eimerkette	42	30.11	7.88	6½	3 5/16	7¼	Hunting
18043	55.25	Eimermasse	43	30.82	8.07	6½	3 5/16	7¼	Tooth
18043	55.25	Eimerweise	43	30.82	8.07	6½	3 5/16	7¼	Miter
18049	61.45	Einachsig	49	35.12	9.19	6½	4	7⅞	Miter
18049	61.45	Einander	49	35.12	9.19	6½	4	7⅞	Hunting
18050	62.45	Einarmig	50	35.83	9.38	6½	4	7⅞	Tooth

NOTE.—By our Machine Molding Process we can furnish Gears of any kind or dimension with comparatively small pattern expense.

For Cut Gear lists, see pages 482 to 502.

Cast Tooth Miter Gears

2 1/4″ Pitch—Continued

For Horse Power transmitted by Miter Gears, 2¼″ pitch
See page 446.

Pattern Number	Price, Bored With K. S. Or S. S.	CODE WORD	Number of Teeth	Pitch Diam., Inches	Pitch Circum., Feet	Face, Inches	Backing Inches	Standard Length Through Hub, Inches	Type of Gears
18050	$62.45	Einathmen	50	35.83	9.38	6½	4	7⅞	Miter
18054	66.40	Einballen	54	38.70	10.13	6½	4⅛	7 15/16	Miter
18060-A	86.40	Einband	60	42.99	11.25	10	4 7/16	10 13/16	Miter

2 1/2″ Pitch

Cast Iron M ter Gears 2½″ pitch, 7″ face, under ordinary conditions, will transmit 15.00 H. P. at 100 feet per minute on the pitch line, 22.52 H. P. at 200 feet, 27.70 H. P. at 300 feet, 39.87 H. P. at 500 feet, 55.65 H. P. at 750 feet, 67.25 H. P. at 1,000 feet, 78.16 H. P. at 1,250 feet.

20017-A	$25.15	Einbanden	17	13.60	3.57	3½	3	4¾	Miter
20026	45.05	Einbein	26	20.74	5.43	7	2½	8¼	Miter
20030	50.75	Einbenig	30	23.92	6.26	7	3 9/16	7 9/16	Miter
20030-A	49.50	Einvetteln	30	23.92	6.26	6	3½	6 11/16	Miter
20034	56.20	Einbildsam	34	27.09	7.10	7	3 11/16	8	Miter
20034	56.20	Einbildung	34	27.09	7.10	7	3 11/16	8	Hunting
20035	57.80	Einbinden	35	27.89	7.31	7	2⅞	6⅜	Tooth
20035	57.80	Einbisamen	35	27.89	7.31	7	2⅞	6⅜	Miter
20040	64.60	Einblatt	40	31.86	8.35	7	3 7/16	7½	Miter
20043-A	72.00	Einblick	43	34.25	8.97	8	4 5/16	9¼	Miter
20048	75.35	Einddoel	48	38.22	10.00	7	4¼	8 5/16	Miter
*32½54	84.00	Eindeloos	54	43.00	11.25	7	4	8¾	Miter

2 3/4″ Pitch

Cast Iron Miter Gears 2¾″ pitch, 7½″ face, under ordinary conditions, will transmit 17.67 H. P. at 100 feet per minute on the pitch line, 26.55 H. P. at 200 feet, 32.66 H. P. at 300 feet, 47.00 H. P. at 500 feet, 65.50 H. P. at 750 feet, 79.25 H. P. at 1,000 feet, 92.00 H. P. at 1,250 feet.

22030	$65.85	Eindigheid	30	26.31	6.90	7½	5½	10¼	Miter

3″ Pitch

Cast Iron Miter Gears 3″ pitch, 8½″ face, under ordinary conditions, will transmit 21.85 H. P. at 100 feet per minute on the pitch line, 32.8 H. P. at 200 feet, 40.4 H. P. at 300 feet, 58.1 H. P. at 500 feet, 81.1 H. P. at 750 feet, 98.01 H. P. at 1,000 feet, 113.9 H. P. at 1,250 feet.

24019-A	$45.00	Langrel	19	18.23	4.78	6	2 11/16	6	Miter
24026	75.90	Eindiging	26	24.89	6.52	8½	4 1/16	9 1/16	Miter
24032	89.85	Eindklank	32	30.61	8.01	8½	4 7/16	9¼	Miter
24038	104.40	Eindletter	38	36.33	9.51	8½	4¾	10	Miter
24038	104.40	Eindorren	38	36.33	9.51	8½	4¾	10	Hunting
24039	106.85	Eindpaal	39	37.28	9.76	8½	4⅞	10	Tooth
24039	106.85	Eindruck	39	37.28	9.76	8½	4⅞	10	Miter
24042	114.00	Eindvonnis	42	40.14	10.51	8½	4⅞	10	Miter

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For Cut Gear Lists see pages 482 to 502.

Cast Tooth Miter Gears

3 1/4" Pitch

Cast Iron Miter Gears 3¼" pitch, 9½" face, under ordinary conditions, will transmit 26.5 H. P. at 100 feet per minute on the pitch line, 39.7 H. P. at 200 feet, 48.9 H. P. at 300 feet, 70.3 H. P. at 500 feet, 98.2 H. P. at 750 feet, 118.6 H. P. at 1,000 feet, 137.9 H. P. at 1,250 feet.

Pattern Number	Price Quoted on Application	CODE WORD	Number of Teeth	Pitch Diam., Inches	Pitch Circum., Feet	Face, Inches	Backing Inches	Standard Length Through Hub, Inches	Type of Gears
26035	.....	Einerhand	35	36.26	9.50	9½	5⅞	10 13/16	Miter
26040	.....	Einfaedeln	40	41.42	10.85	9½	5¼	11 1/16	Miter

3 1/2" Pitch

Cast Iron Miter Gears 3½" pitch, 10" face, under ordinary conditions, will transmit 30.0 H. P. at 100 feet per minute on the pitch line, 45.0 H. P. at 200 feet, 55.4 H. P. at 300 feet, 79.7 H. P. at 500 feet, 111.3 H. P. at 750 feet, 134.5 H. P. at 1,000 feet, 156.3 H. P. at 1,250 feet.

28030	.....	Einfesseln	30	33.48	8.76	10	5⅞	10⅞	Miter
28034-A	.....	Einfilzen	34	37.93	9.92	8	5⅛	9½	Miter
28044-A	.....	Einflecken	44	49.06	12.84	8	5 11/16	.....	Miter
28044-A	.....	Einflug	44	49.06	12.84	8	5 11/16	.....	Hunting
28045-A	.....	Einfluss	45	50.18	13.13	8	6⅜	.....	Tooth
28045-A	.....	Einfoermig	45	50.18	13.13	8	6⅜	.....	Miter

4" Pitch

Cast Iron Miter Gears 4" pitch, 11" face, under ordinary conditions, will transmit 37.7 H. P. at 100 feet per minute on the pitch line, 56.6 H. P. at 200 feet, 69.7 H. P. at 300 feet, 100.2 H. P. at 500 feet, 140.0 H. P. at 750 feet, 169.0 H. P. at 1,000 feet, 196.5 H. P. at 1,250 feet.

32022-A	.....	Einforden	22	28.10	7.36	13½	5½	14½	Miter
32030	.....	Einformen	30	38.26	10.02	11	6	12¼	Miter
32037-A	.....	Einfrage	37	47.17	12.36	9	5⅝	10½	Miter
32038	.....	Einfrieden	38	48.44	12.69	11	4⅛	11½	Miter
32038	.....	Einfuhr	38	48.44	12.69	11	4⅛	11½	Hunting
32039	.....	Einfurchen	39	49.71	13.02	11	5⅜	12	Tooth
32039	.....	Eingabe	39	49.71	13.02	11	5⅜	12	Miter

4 1/2" Pitch

Cast Iron Miter Gears 4½" pitch, 12" face, under ordinary conditions, will transmit 46.3 H. P. at 100 feet per minute on the pitch line, 69.5 H. P. at 200 feet, 85.5 H. P. at 300 feet, 123.0 H. P. at 500 feet, 171.7 H. P. at 750 feet, 207.5 H. P. at 1,000 feet, 241.2 H. P. at 1,250 feet.

36019-A	.....	Eingaukeln	19	27.34	7.15	10	3⅞	9 16	Miter
36020-A	.....	Eingehaust	20	28.76	7.52	10	3⅞	10¼	Miter
36027	.....	Eingehend	27	38.76	10.15	12	3⅞	10¾	Miter
36027	.....	Eingeholt	27	38.76	10.15	12	3⅞	10¾	Hunting
36028	.....	Eingeimpft	28	40.19	10.53	12	8½	15 5/16	Tooth
36028	.....	Eingejagt	28	40.19	10.53	12	8½	15 5/16	Miter

NOTE.—By our Machine Molding Process we can furnish Gears of any kind or dimension with comparatively small pattern expense.

For Cut Gear Lists see pages 482 to 502.

Gears Mounted on Angle Plates

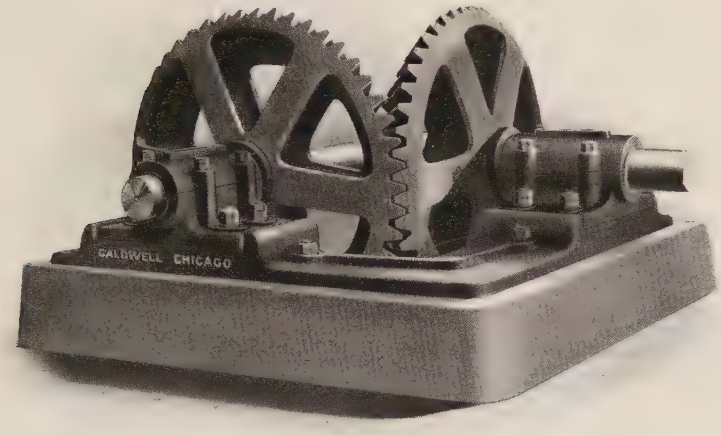
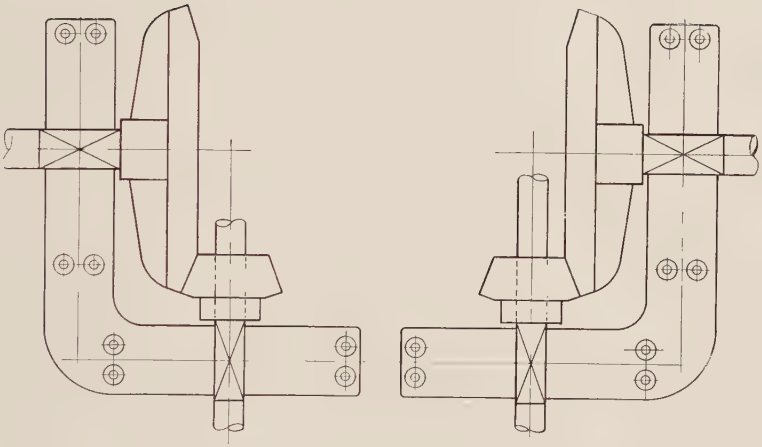


Fig. 45443 (*Altiva*)



Style No. 1
Right Hand

Style No. 2
Left Hand

Angle Plates prevent shifting of the bearings of heavy bevel and miter gear drives, and insure the proper meshing of the teeth. The seats for the bearings are planed, and bolt holes drilled to secure exact centers.

The diagram shows the difference between Right Hand plates, Style No. 1, and Left Hand plates, Style No. 2. In ordering or asking for price, be sure to specify which style is wanted.

Price named on application.

Spur Mortise Wheels

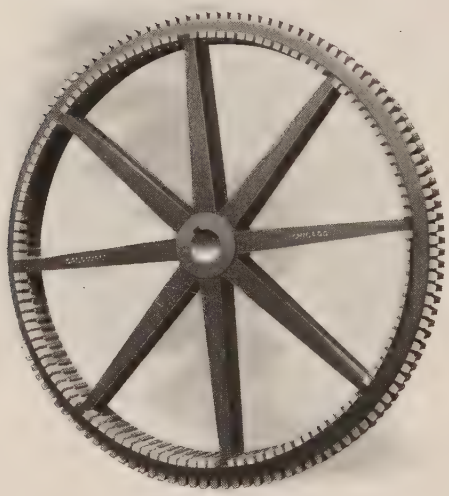


Fig. 45444. (*Landhirsch*)

Mortise Gears can be run at much higher speeds than cast tooth or ordinary cut tooth gears. We have furnished Mortise Gears which operate very satisfactorily at 3,000 feet per minute on the pitch line. The shafts must be properly supported and accurately lined up, and the distance between centers of shafts exactly correct, in order to insure smooth running. Where the speed exceeds 2,500 feet per minute we should be informed of all conditions, so as to design the gears properly.

Our Mortise Gears are filled with teeth of the best quality of thoroughly seasoned hard maple, carefully fitted, and the teeth are cut to shape after the gear is filled, in gear cutting machines. This makes certain that the gear will be as nearly perfect as it is possible to make it.

Prices of Spur Mortise Pinions are given on pages 455 to 458.

Prices of Cogs for refilling mortise wheels are given on pages 474 and 475.

In telegraphing, use code word for size of gear in list, and follow with code word for bore as given on page 372.

Spur Mortise Wheels

With Machine Finished Teeth

1 1/2″ Pitch

Spur Mortise Wheels 1½″ pitch, 5″ face, under ordinary conditions, will transmit 9.59 H. P. at 250 feet per minute on the pitch line, 17.08 H. P. at 500 feet, 23.85 H. P. at 750 feet, 28.81 H. P. at 1,000 feet, 33.50 H. P. at 1,250 feet, 37.98 H. P. at 1,500 feet, 45.80 H. P. at 2,000 feet, 52.95 H. P. at 2,500 feet.

Pattern Number	Price, Finished	CODE WORD	Number of Cogs	Pitch Diameter, Inches	Pitch Circumference, Feet	Face, Inches	Standard Length Through Hub, Inches
12028	$ 75.00	Faalden	28	13.40	3.51	5	6 5/16
12048	100.00	Faamloos	48	22.93	6.01	5	6 1/8
12050-A	100.00	Faamroover	50	23.89	6.25	3½	4 13/16
12054	109.00	Fabaceous	54	25.80	6.75	5	6 3/8
12066	117.00	Fabagella	66	31.52	8.25	5	6 3/16
12072	123.00	Fabaginam	72	34.39	9.00	5	6¼
12075	126.00	Linearamos	75	35.82	9.37	5	6¼
12075-A	153.00	Fabaginis	75	35.82	9.37	7	9
12078	132.00	Fabaraz	78	37.26	9.75	5	6 5/16
12084-A	154.00	Mugnitora	84	40.12	10.50	6	7 9/16
12088	148.00	Mugolava	88	42.02	11.00	5	6½
12088-A	140.00	Fabaries	88	42.02	11.00	4	5½
12096	161.00	Fabatorum	96	45.84	12.00	5	6¼
12096-A	146.00	Mugriento	96	45.84	12.00	4	5¼
12104	174.00	Lapazzammo	104	49.66	13.00	5	6¼

1 3/4″ Pitch

Spur Mortise Wheels 1¾″ pitch, 6″ face, under ordinary conditions, will transmit 13.44 H. P. at 250 feet per minute on the pitch line, 23.92 H. P. at 500 feet, 33.39 H. P at 750 feet, 40.34 H. P. at 1,000 feet, 46.89 H. P. at 1,250 feet, 53.17 H. P. at 1,500 feet, 64.12 H. P. at 2,000 feet, 74.13 H. P. at 2,500 feet.

14024	$ 75.00	Fabbricano	24	13.41	3.51	6	7 11/16
14032	83.00	Fabbricare	32	17.85	4.67	6	7 11/16
14044	102.00	Fabbrico	44	24.53	6.42	6	7 11/16
14046	106.00	Fabbrile	46	25.64	6.71	6	7 11/16
14048	110.00	Fabbro	48	26.76	7.00	6	7 11/16
14048-A	102.00	Fabella	48	26.76	7.00	4½	6 3/16
14060	122.00	Fabelland	60	33.44	8.76	6	7 11/16
14066	133.00	Fabellarum	66	36.78	9.63	6	7 11/16
14068	136.00	Fabelreich	68	37.89	9.92	6	7 11/16
14078	155.00	Fabelsage	78	43.46	11.38	6	7 11/16
14084	166.00	Fabelwelt	84	46.80	12.26	6	7 11/16
14090	178.00	Fabelzeit	90	50.14	13.14	6	7 11/16
14096-A	225.00	Linearo	96	53.48	14.01	8	9¾
14100-A	180.00	Mujeracha	100	55.71	14.59	5	6 11/16
14102	200.00	Fabianos	102	56.83	14.88	6	7 11/16
14110-A	201.50	Lincariter	110	61.28	16.04	5	7½
14128-A	240.00	Lapazzando	128	71.31	18.66	5	7½
14136	268.00	Becas	136	75.76	19.83	6	7 11/16

NOTE.—By our Machine Molding Process we can furnish Gears of any kind or dimension with comparatively small pattern expense.

Spur Mortise Wheels

With Machine Finished Teeth

2″ Pitch

Spur Mortise Wheels 2″ pitch, 7″ face, under ordinary conditions, will transmit 17.91 H. P. at 250 feet per minute on the pitch line, 31.89 H. P. at 500 feet. 44.52 H. P. at 750 feet, 53.79 H. P. at 1,000 feet, 62.52 H. P. at 1,250 feet, 70.90 H. P. at 1,500 feet, 85.50 H. P. at 2,000 feet, 98.84 H. P. at 2,500 feet.

Pattern Number	Price, Finished	CODE WORD	Number of Cogs	Pitch Diameter, Inches	Pitch Circumference, Feet	Face, Inches	Standard Length Through Hub, Inches
16036	$ 98.00	Fablier	36	22.95	6.01	7	9
16038	103.00	Fabordao	38	24.22	6.34	7	9
16042	110.00	Fabordones	42	26.76	7.01	7	9
16048	120.00	Fabrefacto	48	30.58	8.01	7	9
16048-A	110.00	Fabrefias	48	30.58	8.01	5	7
16054	129.00	Fabregues	54	34.39	9.00	7	9
16060	142.00	Fabrica	60	38.21	10.01	7	9
16062	146.00	Mujeriles	62	39.49	10.34	7	9
16066	155.00	Fabricaba	66	42.03	11.00	7	9
16072-A	156.00	Linearly	72	45.84	12.01	6	8
16075-A	162.00	Fabricacao	75	47.76	12.51	6	8
16075-B	194.00	Lineaseis	75	47.76	12.51	8	10
16078	181.00	Fabricadas	78	49.67	13.01	7	9
16088	204.00	Fabricador	88	56.03	14.69	7	9
16090	208.00	Fabricamos	90	57.31	15.02	7	9
16091	211.00	Fabricaron	91	57.94	15.18	7	9
16092-A	210.00	Lineated	92	58.58	15.35	6	8
16096-A	223.00	Mujerona	96	61.13	16.00	6	8
16102	244.00	Lineation	102	64.95	17.00	7	9
16105-A	230.00	Lineatura	105	66.86	17.51	5	7
16112-A	250.00	Lineaveris	112	71.31	18.67	5	7
16114-A	265.00	Fabricien	114	72.58	19.00	6	8
16114-B	370.00	Fabriendos	114	72.58	19.00	9	11
16116	275.00	Fabriendum	116	73.86	19.33	7	9
16122	293.00	Lineavero	122	77.68	20.33	7	9
16128-A	430.00	Linemen	128	81.50	21.33	10	10
16136-A	400.00	Fabrikeur	136	86.59	22.69	8	10
16136-B	290.00	Fabrikherr	136	86.59	22.69	5	7
16136-C	325.00	Fabrikland	136	86.59	22.69	6	8

2 1/4″ Pitch

Spur Mortise Wheels 2¼″ pitch, 8″ face, under ordinary conditions, will transmit 23.02 H. P. at 250 feet per minute on the pitch line, 41.00 H. P. at 500 feet, 57.24 H. P. at 750 feet, 69.16 H. P. at 1,000 feet, 80.39 H. P. at 1,250 feet, 91.15 H. P. at 1,500 feet, 109.93 H. P. at 2,000 feet, 127.08 H. P. at 2,500 feet.

18034	$112.00	Mulacchia	34	24.39	6.39	8	10⅛
18040	123.00	Fabrique	40	28.68	7.51	8	10¼
18042	129.00	Fabriquons	42	30.11	7.88	8	10¼
18048	145.00	Fabronie	48	34.40	9.01	8	10¼
18054	161.00	Fabulacao	54	38.70	10.13	8	10¼
18060	177.00	Fabuliste	60	42.99	11.25	8	10¼
18066	196.00	Fabulizing	66	47.29	12.38	8	10¼
18072	214.00	Fabulonen	72	51.58	13.51	8	10¼
18096	292.00	Fabulonis	96	68.77	18.03	8	10¼
18100	306.00	Fabulously	100	71.63	18.78	8	10¼
18102	312.00	Fabuntur	102	73.06	19.15	8	10¼

Spur Mortise Wheels

With Machine Finished Teeth

2 1/2" Pitch

Spur Mortise Wheels 2½" pitch, 9" face, under ordinary conditions, will transmit 28.78 H. P. at 250 feet per minute on the pitch line, 51.26 H. P. at 500 feet, 71.55 H. P. at 750 feet, 86.45 H. P. at 1,000 feet, 100.49 H. P. at 1,250 feet, 113.94 H. P. at 1,500 feet, 137.41 H. P. at 2,000 feet, 158.85 H. P. at 2,500 feet.

Pattern Number	Price, Finished	CODE WORD	Number of Cogs	Pitch Diameter, Inches	Pitch Circumference, Feet	Face, Inches	Standard Length Through Hub, Inches
20036	$139.00	Faburthen	36	28.68	7.51	9	11¼
20036-A	125.00	Facanea	36	28.68	7.51	7½	9⅞
20048	180.00	Facchino	48	38.22	10.00	9	11¼
20054-A	232.00	Lineolaire	54	43.00	11.25	10	12¼
20060-A	256.00	Facemmo	60	47.77	12.50	10	12 7/16
20066	248.00	Facendo	66	52.54	13.75	9	11 7/16
20066-A	280.00	Lineolarum	66	52.54	13.75	10	12 7/16
20072	272.00	Facenisha	72	57.31	15.00	9	11 7/16
20085-A	251.00	Facesse	85	67.66	17.72	6½	8 13/16
20096	375.00	Facessimo	96	76.41	20.01	9	11⅜
20166	1125.00	Lineolate	166	132.11	34.58	9	13

2 3/4" Pitch

Spur Mortise Wheels 2¾" pitch, 10" face, under ordinary conditions will transmit 35.17 H. P. at 250 feet per minute on the pitch line, 62.65 H. P. at 500 feet, 87.45 H. P. at 750 feet, 105.66 H. P. at 1,000 feet, 122.82 H. P. at 1,250 feet, 139.26 H. P. at 1,500 feet, 167.94 H. P. at 2,000 feet, 194.15 H. P. at 2,500 feet.

22060	$277.00	Facessunt	60	52.55	13.76	10	12½
22072	340.00	Muladares	72	63.05	16.51	10	12½
22078	370.00	Facetabat	78	68.29	17.89	10	12½
22084	400.00	Facetammo	84	73.54	19.27	10	12½
22102	500.00	Facetando	102	89.30	23.40	10	12½

3" Pitch

Spur Mortise Wheels 3" pitch, 11" face, under ordinary conditions, will transmit 42.21 H. P. at 250 feet per minute on the pitch line, 75.17 H. P. at 500 feet, 104.9 H. P. at 750 feet, 126.8 H. P. at 1,000 feet, 147.4 H. P. at 1,250 feet, 167.1 H. P. at 1,500 feet, 201.5 H. P. at 2,000 feet, 233.0 H. P. at 2,500 feet.

24025-A	$120.00	Facetarent	25	23.94	6.27	9	11 13/16
24039-A	180.00	Facetarono	39	37.28	9.76	9	11 13/16
24049	261.00	Facetas	49	46.82	12.26	11	13¾
24054	294.00	Facetavamo	54	51.59	13.50	11	13¾
24055	300.00	Facetely	55	52.55	13.75	11	11¼
24066	366.00	Faceteness	66	63.05	16.50	11	13¾
24075-A	465.00	Malateiro	75	71.64	18.75	12	14¾
24090	520.00	Facetiabor	90	85.96	22.50	11	13¾

1 Diametral Pitch

Spur Mortise Wheels 1 diam. pitch, 12" face, under ordinary conditions, will transmit 48.2 H. P. at 250 feet per minute on the pitch line, 85.8 H. P. at 500 feet, 119.8 H. P. at 750 feet, 144.8 H. P. at 1,000 feet, 168.3 H. P. at 1,250 feet, 190.8 H. P. at 1,500 feet, 230.1 H. P. at 2,000 feet, 266.0 H. P. at 2,500 feet.

25¼081	.....	Mulcebo	81	81.00	21.22	12	15

Spur Mortise Wheels
With Machine Finished Teeth
3 1/2″ Pitch

Spur Mortise Wheels 3½″ pitch, 13″ face, under ordinary conditions, will transmit 58.2 H. P. at 250 feet per minute on the pitch line, 103.7 H. P. at 500 feet, 144.7 H. P, at 750 feet, 174.8 H. P. at 1,000 feet, 203.2 H. P. at 1,250 feet, 230.4 H. P. at 1,500 feet. 277.9 H. P. at 2,000 feet, 321.2 H. P. at 2,500 feet.

Pattern Number	Price, Finished	CODE WORD	Number of Cogs	Pitch Diameter, Inches	Pitch Circumference, Feet	Face, Inches	Standard Length Through Hub, Inches
28030	.....	Facetiari	30	33.48	8.76	13	16½
28060	.....	Facetieux	60	66.84	17.51	13	16½
28066	.....	Mulcemus	66	73.50	19.85	13	16½
28105-A	.....	Faceting	105	116.99	30.65	14	17½

4″ Pitch

Spur Mortise Wheels 4″ pitch, 15″ face, under ordinary conditions, will transmit 76.7 H. P. at 250 feet per minute on the pitch line, 136.7 H. P. at 500 feet, 190.8 H. P. at 750 feet, 230.5 H. P. at 1,000 feet, 268.0 H. P. at 1,250 feet, 303.8 H. P. at 1,500 feet, 366.4 H. P. at 2,000 feet, 423.6 H. P. at 2,500 feet.

32045-A	.....	Facetious	45	57.34	15.01	12	15¾
32054	.....	Faceto	54	68.79	18.00	15	18¾
32066	.....	Facettes	66	84.06	22.00	15	18¾
32072	.....	Facevamo	72	91.70	24.00	15	18¾

5″ Pitch

Spur Mortise Wheels 5″ pitch, 18″ face, under ordinary conditions, will transmit 115.1 H. P. at 250 feet per minute on the pitch line, 205.0 H. P. at 500 feet, 286.2 H. P. at 750 feet, 345.8 H. P. at 1,000 feet, 402.0 H. P. at 1,250 feet, 455.8 H. P. at 1,500 feet, 549.6 H. P. at 2,000 feet, 635.4 H. P. at 2,500 feet.

40061-A	.....	Lineolis	61	97.13	25.44	20	26
40090-A	.....	Facevate	90	143.27	37.54	24	36
40116-A	.....	Facezia	116	184.64	48.33	18	24½

Fig. 45445. (*Lineux*)

Spur Mortise Pinions

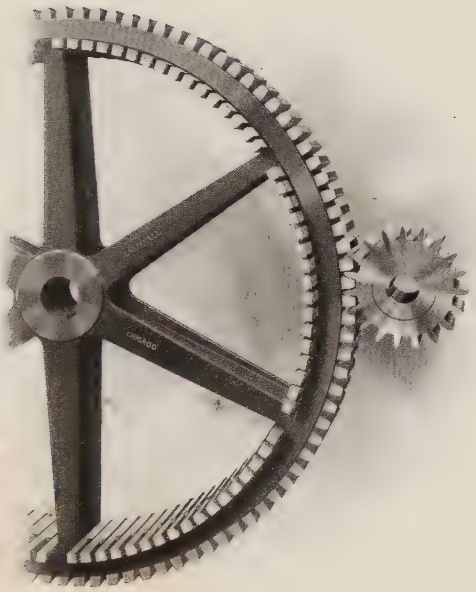


Fig. 45446. (*Larifla*)

Spur Mortise Pinions are accurately cut in gear cutting machines. The shape of the teeth is such that they have slightly greater strength than the gear with which they run. Use the horse-power table given with the list on Spur Mortise Wheels to determine the power which the pair of Mortise Gears will transmit.

Special Mortise Pinions can be furnished with comparatively small pattern expense. Prices on application.

Spur Mortise Pinions

With Machine Finished Teeth

1 1/2″ Pitch

Pattern Number	Price, Finished	CODE WORD	Number of Teeth	Pitch Diameter, Inches	Pitch Circumference, Feet	Face, Inches	Standard Length Through Hub, Inches
12015	$27.00	Lapazzassi	15	7.21	1.89	5½	5¾
12016	28.00	Linfa	16	7.69	2.02	5½	5¾
12017	29.00	Lapazzato	17	8.16	2.14	5½	5¾
12018	30.00	Linfaerts	18	8.64	2.26	5½	5¾
12019	31.00	Lapazzava	19	9.11	2.39	5½	5¾
12020	32.00	Linfarden	20	9.59	2.51	5½	5¾
12021-A	42.00	Fachbaum	21	10.06	2.63	7¼	7¾
12025	40.25	Facheabais	25	11.97	3.13	5½	5¾
12027	43.25	Fachearon	27	12.92	3.38	5½	5¾
12028	44.50	Fachendear	28	13.40	3.51	5½	5¾
12031-A	46.00	Fachendon	31	14.82	3.88	4½	4¾
12032	49.50	Fachgerte	32	15.30	4.00	5½	5¾
12034	52.50	Fachineiro	34	16.26	4.26	5½	5¾
12035	53.75	Fachons	35	16.73	4.38	5½	5¾
12036	55.00	Fachplatte	36	17.21	4.50	5½	5¾
12038	57.50	Fachseib	38	18.16	4.75	5½	5¾
12042	63.00	Fachwerk	42	20.07	5.26	5½	5¾
12048	71.50	Fachzahn	48	22.93	6.01	5½	5¾
12050-A	66.00	Fackel	50	23.89	6.25	4	4¼
12054-A	71.00	Fackelbaum	54	25.80	6.75	4	4¼
12063-A	81.00	Fackelmann	63	30.09	7.87	4	4¼
12068	90.00	Fackeltanz	68	32.48	8.50	5½	5¾

1 3/4″ Pitch

14015	$31.25	Factatorum	15	8.42	2.20	6½	6⅝
14016	33.00	Linfatiche	16	8.97	2.35	6½	6⅝
14017	34.75	Linfatico	17	9.52	2.49	6½	6⅝
14018	36.50	Factaturi	18	10.08	2.64	6½	6⅝
14020	39.75	Factaveris	20	11.19	2.93	6½	6⅝
14022	43.50	Facticius	22	12.30	3.22	6½	6⅝
14023	45.00	Factionary	23	12.85	3.36	6½	6⅝
14024	46.75	Factioner	24	13.41	3.51	6½	6⅝
14025	48.75	Factionist	25	13.96	3.65	6½	6⅝
14027	52.25	Factiosos	27	15.07	3.94	6½	6⅝
14028	54.00	Factiosum	28	15.63	4.09	6½	6⅝
14029	56.00	Factiously	29	16.19	4.23	6½	6⅝
14034	64.50	Factitamus	34	18.97	4.96	6½	6⅝
14040	74.50	Factitatum	40	22.30	5.84	6½	6⅝
14048-A	88.50	Factitetis	48	26.76	7.00	4½	4⅝
14054	100.00	Factivel	54	30.10	7.88	6½	6⅝
14064	116.00	Factoor	64	35.66	9.34	6½	6⅝
14066	120.00	Factorage	66	36.78	9.63	6½	6⅝
14068	123.00	Factorreie	68	37.89	9.92	6½	6⅝
14072	130.00	Factorium	72	40.12	10.51	6½	6⅝
14078	140.00	Factorship	78	43.46	11.38	6½	6⅝

Spur Mortise Pinions
With Machine Finished Teeth
2″ Pitch

Pattern Number	Price, Finished	CODE WORD	Number of Teeth	Pitch Diameter, Inches	Pitch Circumference, Feet	Face, Inches	Standard Length Through Hub, Inches
16015	$40.00	Factory	15	9.62	2.52	7½	7½
16016	42.25	Lapazzerai	16	10.25	2.69	7½	7½
16017	44.50	Factotum	17	10.88	2.85	7½	7½
16018	46.50	Lapazzo	18	11.52	3.02	7½	7½
16019	48.50	Factricem	19	12.15	3.18	7½	7½
16020	50.75	Factrix	20	12.78	3.35	7½	7½
16021	52.75	Facturada	21	13.42	3.51	7½	7½
16022-A	45.00	Facturados	22	14.05	3.68	4	4
16024	58.50	Facturames	24	15.32	4.01	7½	7½
16025-A	69.00	Facturando	25	15.96	4.18	8¼	8⅜
16025-B	55.00	Facturar	25	15.96	4.18	5¼	5⅜
16025-C	59.00	Facturaron	25	15.96	4.18	6¼	6⅜
16026-A	61.50	Facture	26	16.59	4.35	6¼	6¼
16026-B	82.00	Factureis	26	16.59	4.35	9¼	9¼
16029	68.50	Factureras	29	18.50	4.84	7½	7½
16030	71.00	Facturons	30	19.13	5.01	7½	7½
16032	75.00	Facudo	32	20.40	5.34	7½	7½
16036	83.00	Facultamos	36	22.95	6.01	7½	7½
16042	96.00	Facultando	42	26.76	7.01	7½	7½
16044	100.00	Facultaron	44	28.04	7.34	7½	7½
16048-A	86.00	Faculties	48	30.58	8.01	5	5
16054	121.00	Facundious	54	34.39	9.00	7½	7½
16056	125.00	Facundos	56	35.67	9.34	7½	7½
16066	147.00	Fadedly	66	42.03	11.00	7½	7½
16068	151.00	Fadeless	68	43.29	11.34	7½	7½
16082	183.00	Fadenblume	82	52.22	13.67	7½	7½

2 1/4″ Pitch

18018	$ 57.00	Fadengold	18	12.96	3.39	8½	8½
18024	71.00	Fadengrade	24	17.24	4.51	8½	8½
18028	80.00	Fadenhebel	28	20.10	5.26	8½	8½
18032	89.00	Fadenklee	32	22.95	6.01	8½	8½
18034	94.00	Fadenkrebs	34	24.39	6.39	8½	8½
18037	100.00	Fadenkreuz	37	26.53	6.95	8½	8½
18040	108.00	Fadenlos	40	28.68	7.51	8½	8½
18044	118.00	Fadenmilbe	44	31.54	8.26	8½	8½
18046	122.00	Fadenmuell	46	32.97	8.63	8½	8½
18048	127.00	Fadennass	48	34.40	9.01	8½	8½
18053	140.00	Fadennudel	53	37.98	9.94	8½	8½

2 1/2″ Pitch

20017-A	$ 57.00	Fadenrecht	17	13.60	3.57	6¾	7½
20018	70.00	Fadenreich	18	14.40	3.77	9½	10¼
20030	104.00	Fadensaum	30	23.92	6.26	9½	9½
20032	109.00	Fadest	32	25.51	6.68	9½	9½
20036	121.00	Fadingly	36	28.68	7.51	9½	9½
20036-A	100.00	Fadingness	36	28.68	7.51	7½	7½
20038	128.00	Faecati	38	30.27	7.93	9½	9½
20066	220.00	Faecatorum	66	52.54	13.75	9½	9½

Spur Mortise Pinions
With Machine Finished Teeth
2 3/4″ Pitch

Pattern Number	Price, Finished	CODE WORD	Number of Teeth	Pitch Diameter, Inches	Pitch Circumference, Feet	Face, Inches	Standard Length Through Hub, Inches
22019	$ 84.00	Faecatos	19	16.71	4.38	10½	10⅝
22026	109.00	Faecatum	26	22.81	5.98	10½	10½
22028	115.00	Faedeln	28	24.57	6.44	10½	10½
22032	130.00	Faehig	32	28.06	7.35	10½	10½
22036	146.00	Faehiger	36	31.56	8.26	10½	10½

3″ Pitch

24013-A	$ 64.00	Faehigkeit	13	12.53	3.28	9½	10¼
24019	96.00	Faehigsten	19	18.23	4.78	11½	12¼
24023	113.00	Faehndrich	23	22.03	5.77	11½	11½
24025-A	102.00	Faehrgeld	25	23.94	6.27	9	9
24027	131.00	Faehrherr	27	25.84	6.77	11½	11½
24034	165.00	Faehrakahn	34	32.51	8.51	11½	11½
24039-A	165.00	Faehrlich	39	37.28	9.76	9	9
24051	255.00	Faehrmann	51	48.73	12.76	11½	11½
24055	277.00	Faehrpacht	55	52.55	13.75	11½	11½
24056	282.00	Faehrst	56	53.50	14.00	11½	11½
24058-A	230.00	Faehrtau	58	55.41	14.50	5½	6

3 1/2″ Pitch

28017	.....	Faenas	17	19.05	4.98	13½	13½
28030	.....	Faerbehaus	30	33.48	8.76	13½	13½
28054	.....	Faerbekorn	54	60.16	15.76	13½	13½

4″ Pitch

32019	.....	Faerberei	19	24.30	6.37	15½	15¾
32034-A	.....	Faerbezeit	34	43.35	11.35	12	12
32038	.....	Faernus	38	48.44	12.69	15½	15½
32042	.....	Faesulae	42	53.53	14.02	15½	15½

5″ Pitch

40030-A	.....	Faetones	30	47.83	12.52	24	28
40040-A	.....	Faeulnis	40	63.73	16.70	18½	18¾

Bevel Mortise Gears in Pairs

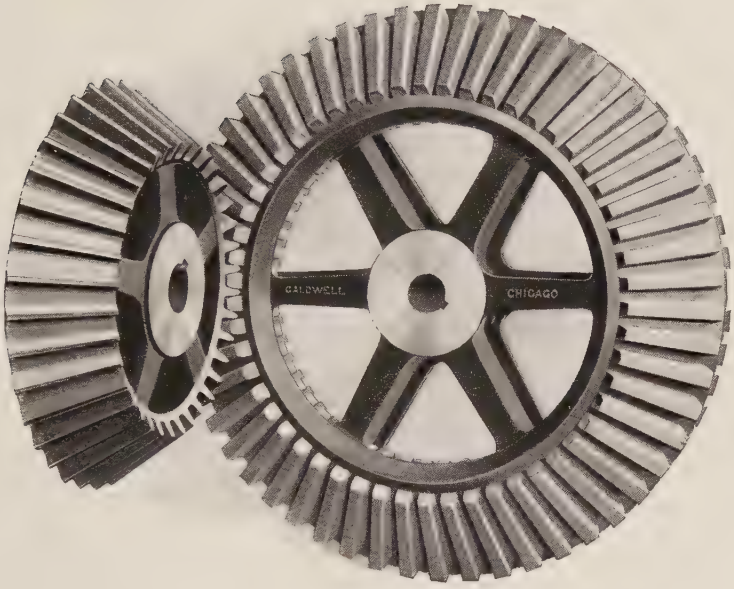


Fig. 45447. (*Landkinder*)

Our Bevel Mortise Wheels are filled with teeth of the best quality of thoroughly seasoned hard maple, carefully fitted, and the teeth are cut to shape after the gear is filled, in automatic gear cutters. Our Bevel Mortise Pinions are also cut in automatic gear cutting machines.

Bevel Mortise Gears can be safely run at a speed of 3,000 feet per minute on the pitch line, and are very quiet at this speed if properly installed. Where gears are to be run at a speed in excess of 2,500 feet per minute, we should be informed of all conditions, so as to design the gears properly.

Prices of teeth for refilling Mortise Wheels are given on pages 474 and 475.

In telegraphing, use code word in list and follow with code word for bore as given on page 372.

Bevel Mortise Gears in Pairs

With Machine Finished Teeth

1 1/2″ Pitch

Bevel Mortise Wheels 1½″ pitch, 5″ face, under ordinary conditions, will transmit 7.89 H. P. at 250 feet per minute on the pitch line, 12.53 H. P. at 500 feet, 16.63 H. P. at 750 feet, 20.19 H. P. at 1,000 feet, 23.52 H. P. at 1,250 feet, 26.59 H. P. at 1,500 feet, 32.26 H. P. at 2,000 feet, 37.06 H. P. at 2,500 feet.

Pattern Number	Price, Finisned	CODE WORD	No. of Teeth	Pitch Diam., Inches	Pitch Circum., Feet	Face, Inches	Backing, Inches	Standard Length Through Hub, Inches	Speed Ratio	Type of Gears
121261	$98.00	Gallareta	48	22.93	6.01	5	3 5/8	6	1.26	Mortise
121262	52.00	Gallerones	38	18.16	4.75	5	2	5 3/4		Pinion
121311	90.00	Gallates	42	20.07	5.26	5	3 9/16	5 15/16	1.31	Mortise
121312	45.00	Gallbitter	32	15.30	4.00	5	1 7/8	5 5/8		Pinion
121411	98.00	Galleaba	48	22.93	6.01	5	3 3/4	5 7/8	1.41	Mortise
121412	47.00	Galleabais	34	16.26	4.26	5	1 13/16	5 3/4		Pinion
121501	98.00	Galleamos	48	22.93	6.01	5	3 3/4	5 3/4	1.50	Mortise
121502	45.00	Gallearon	32	15.30	4.00	5	1 5/8	5 5/8		Pinion
121571	118.00	Gallegada	66	31.52	8.25	5	4 3/16	6	1.57	Mortise
121572	56.00	Gallengang	42	20.07	5.26	5	1 7/8	5 7/8		Pinion
121851	98.00	Gallenspat	48	22.93	6.01	5	3 15/16	5 3/8	1.85	Mortise
121852	37.00	Gallenzug	26	12.44	3.26	5	1 1/4	5 1/4		Pinion
122001	108.00	Galleons	60	28.66	7.50	5	4 1/4	5 1/2	2.00	Mortise
122002	42.00	Gallerand	30	14.35	3.76	5	1 1/4	5 5/8		Pinion
122081	103.00	Galleria	54	25.80	6.75	5	4 1/4	5 1/2	2.08	Mortise
122082	37.00	Gallettino	26	12.44	3.26	5	1 3/16	5 3/8		Pinion
122251	103.00	Galleys	54	25.80	6.75	5	4 5/16	5 3/8	2.25	Mortise
122252	35.00	Galleyworm	24	11.49	3.01	5	1 1/4	5 1/2		Pinion
122361	118.00	Galliambe	66	31.52	8.25	5	4 5/8	5 1/2	2.36	Mortise
122362	40.00	Galliambos	28	13.40	3.51	5	1 1/8	5 5/8		Pinion
122451	103.00	Galliamo	54	25.80	6.75	5	4 5/16	5 3/16	2.45	Mortise
122452	32.00	Gallicado	22	10.54	2.76	5	15/16	5 1/4		Pinion
123001	125.00	Gallicans	72	34.39	9.00	5	5	5 3/8	3.00	Mortise
123002	35.00	Gallicar	24	11.49	3.01	5	1	5 7/16		Pinion
123271	125.00	Gallicized	72	34.39	9.00	5	5 1/16	5 3/8	3.27	Mortise
123272	32.00	Gallico	22	10.54	2.76	5	13/16	5 5/16		Pinion
123601	125.00	Gallicole	72	34.39	9.00	5	5 1/8	5 1/4	3.60	Mortise
123602	30.00	Gallicrura	20	9.59	2.51	5	7/16	5 1/8		Pinion
126001	135.00	Linfoncosi	78	37.26	9.75	5	5 1/2	5	6.00	Mortise
126002	26.00	Linforrea	13	6.27	1.64	5	3/4	5 1/2		Pinion

1 3/4″ Pitch

Bevel Mortise Wheels 1¾″ pitch, 6″ face, under ordinary conditions, will transmit 11.05 H. P. at 250 feet per minute on the pitch line, 17.55 H. P. at 500 feet, 23.28 H. P. at 750 feet, 28.27 H. P. at 1,000 feet, 32.93 H. P. at 1,250 feet, 37.22 H. P. at 1,500 feet, 45.16 H. P. at 2,000 feet, 51.88 H. P. at 2,500 feet.

141071	$120.00	Galliculis	60	33.44	8.76	6	4 3/16	7 1/2	1.07	Mortise
141072	94.00	Gallidraga	56	31.21	8.17	6	3 3/16	7 1/8		Pinion

NOTE.—By our Machine Molding Process we can furnish Gears of any kind or dimension with comparatively small pattern expense.

Bevel Mortise Gears in Pairs
With Machine Finished Teeth
1 3/4" Pitch—Continued

For Horse Power transmitted by Bevel Mortise Gears, 1¾" pitch
See page 460

Pattern Number	Price, Finished	CODE WORD	No. of Teeth	Pitch Diam., Inches	Pitch Circum., Feet	Face, Inches	Backing, Inches	Standard Length Through Hub, Inches	Speed Ratio	Type of Gears
141361	$102.00	Linfosi	45	25.09	6.56	6	4¼	7	1.36	Mortise
141362	58.50	Lingarelle	33	18.41	4.81	6	2 7/16	7		Pinion
141431	120.00	Galliname	60	33.44	8.76	6	4½	7	1.43	Mortise
141432	73.00	Gallinasse	42	23.42	6.13	6	2¼	6 13/16		Pinion
141671	120.00	Gallingly	60	33.44	8.76	6	4¾	6¾	1.67	Mortise
141672	63.00	Gallinhaca	36	20.08	5.25	6	1⅞	6¾		Pinion
141701A	90.00	Gallinho	39	21.75	5.69	3½	4	4 9/16	1.70	Mortise
141702A	35.00	Gallioque	23	12.85	3.36	3½	1⅛	3⅞		Pinion
141931	112.00	Galliots	54	30.10	7.88	6	4 11/16	6⅜	1.93	Mortise
141932	51.00	Gallipot	28	15.63	4.09	6	1¾	6⅝		Pinion
141941	130.00	Gallisme	66	36.78	9.63	6	5	6 9/16	1.94	Mortise
141942	60.00	Gallitos	34	18.97	4.96	6	1 9/16	6¾		Pinion
142001	120.00	Galliwasp	60	33.44	8.76	6	4 15/16	6 7/16	2.00	Mortise
142002	54.00	Gallofear	30	16.74	4.38	6	1½	6⅝		Pinion
142141	120.00	Gallois	60	33.44	8.76	6	5⅛	6 7/16	2.14	Mortise
142142	51.00	Gallomane	28	15.63	4.09	6	1¼	6¼		Pinion
142523A	114.00	Lingence	58	32.32	8.46	5	5¼	5¾	2.52	Mortise
142524A	40.00	Lingendam	23	12.85	3.36	5	1⅛	5⅝		Pinion
142541	130.00	Gallonda	66	36.78	9.63	6	5 5/16	6 3/16	2.54	Mortise
142542	48.00	Galloon	26	14.52	3.80	6	1⅛	6⅝		Pinion
142601	151.00	Galloping	78	43.46	11.38	6	5 11/16	6⅜	2.60	Mortise
142602	54.00	Gallows	30	16.74	4.38	6	1⅛	6 9/16		Pinion
142831	193.00	Gallula	102	56.83	14.88	6	6 13/16	7 1/16	2.83	Mortise
142832	63.00	Gallulos	36	20.08	5.25	6	1¼	6¾		Pinion
143003	130.00	Galoche	66	36.78	9.63	6	5⅜	5⅞	3.00	Mortise
143004	41.00	Galofobia	22	12.30	3.22	6	15/16	6 9/16		Pinion
143271	141.00	Galomania	72	40.12	10.51	6	5 9/16	5⅞	3.27	Mortise
143272	41.00	Galonner	22	12.30	3.22	6	⅞	6 9/16		Pinion
143921	189.00	Galopaban	102	56.83	14.88	6	6⅞	6 9/16	3.92	Mortise
143922	48.00	Galopada	26	14.52	3.80	6	⅞	6⅝		Pinion
144001A	130.00	Lingeria	68	37.89	9.92	5	6	5⅝	4.00	Mortise
144002A	33.00	Lingering	17	9.52	2.49	5	⅝	5¼		Pinion
144871	151.00	Galopillos	78	43.46	11.38	6	5⅞	5 7/16	4.87	Mortise
144872	32.00	Galore	16	8.97	2.35	6	½	6 3/16		Pinion

NOTE.—By our Machine Molding Process we can furnish Gears of any kind or dimension with comparatively small pattern expense.

Bevel Mortise Gears in Pairs

With Machine Finished Teeth

2″ Pitch

Bevel Mortise Wheels 2″ pitch, 7″ face, under ordinary conditions, will transmit 14.73 H. P. at 250 feet per minute on the pitch line, 23.39 H. P. at 500 feet, 31.04 H. P. at 750 feet, 37.69 H. P. at 1,000 feet, 43.90 H. P. at 1,250 feet, 49.63 H. P. at 1,500 feet, 60.21 H. P. at 2,000 feet, 69.17 H. P. at 2,500 feet.

Pattern Number	Price, Finished	CODE WORD	No. of Teeth	Pitch Diam., Inches	Pitch Circum., Feet	Face, Inches	Backing, Inches	Standard Length Through Hub, Inches	Speed Ratio	Type of Gears
161041	$116.00	Galoshes	48	30.58	8.01	7	4 3/8	8 5/8	1.04	Mortise
161042	95.00	Galoubet	46	29.31	7.67	7	3 9/16	8 1/4		Pinion
161111	120.00	Galsome	50	31.85	8.34	7	4 9/16	8 1/2	1.11	Mortise
161112	93.00	Galstrig	45	28.67	7.51	7	3 3/8	8 1/4		Pinion
161151	140.00	Galtabe	60	38.21	10.01	7	4 7/8	8 5/8	1.15	Mortise
161152	105.00	Galucho	52	33.12	8.67	7	3 1/2	8 3/8		Pinion
161171	128.00	Galume	54	34.39	9.00	7	4 3/4	8 1/2	1.17	Mortise
161172	95.00	Galuncha	46	29.31	7.67	7	3 3/16	8 1/8		Pinion
161201	165.00	Galupsa	72	45.84	12.01	7	5 5/16	8 7/8	1.20	Mortise
161202	120.00	Galvanical	60	38.21	10.01	7	3 9/16	8 1/2		Pinion
161261	116.00	Galvanico	48	30.58	8.01	7	4 9/16	8 1/4	1.26	Mortise
161262	80.00	Galvanique	38	24.22	6.34	7	2 13/16	8		Pinion
161291	128.00	Galvanists	54	34.39	9.00	7	4 7/8	8 3/8	1.29	Mortise
161292	87.00	Galvanizar	42	26.76	7.01	7	2 15/16	8 1/8		Pinion
161331	116.00	Galvanize	48	30.58	8.01	7	4 9/16	8 1/8	1.33	Mortise
161332	76.00	Gamaliel	36	22.95	6.01	7	2 5/8	8		Pinion
161333	104.00	Lingism	40	25.49	6.67	7	4 15/16	8 1/2	1.33	Mortise
161334	66.00	Lingonicus	30	19.13	5.01	7	2 7/8	8 1/4		Pinion
161381	165.00	Gamapium	72	45.84	12.01	7	5 3/8	8 1/2	1.38	Mortise
161382	105.00	Gamarra	52	33.12	8.67	7	2 15/16	8 1/4		Pinion
161421	128.00	Gambadant	54	34.39	9.00	7	5	8 1/8	1.42	Mortise
161422	80.00	Gambadions	38	24.22	6.34	7	2 1/2	7 7/8		Pinion
161501	116.00	Gambadona	48	30.58	8.01	7	4 7/8	8	1.50	Mortise
161502	69.00	Gambage	32	20.40	5.34	7	2 5/16	8		Pinion
161503	165.00	Gambicino	72	45.84	12.01	7	5 1/2	8 3/8	1.50	Mortise
161504	98.00	Gambiller	48	30.58	8.01	7	2 3/4	8 1/4		Pinion
161505	128.00	Gambison	54	34.39	9.00	7	5 1/16	8	1.50	Mortise
161506	76.00	Gambists	36	22.95	6.01	7	2 5/16	7 7/8		Pinion
161505A	121.00	Gambit	54	34.39	9.00	6	5 1/16	7 3/8	1.50	Mortise
161506A	73.00	Gambogic	36	22.95	6.01	6	2 5/16	7 1/16		Pinion
161521	160.00	Gambolled	70	44.58	11.67	7	5 9/16	7 3/4	1.52	Mortise
161522	95.00	Gambosos	46	29.31	7.67	7	2 11/16	7 3/4		Pinion
161591	128.00	Gambota	54	34.39	9.00	7	5 1/4	8	1.59	Mortise
161592	73.00	Gambrils	34	21.68	5.67	7	2 5/16	8		Pinion
161601	116.00	Gambrinus	48	30.58	8.01	7	4 15/16	7 7/8	1.60	Mortise
161602	66.00	Gambroon	30	19.13	5.01	7	2 1/8	7 7/8		Pinion
161651	153.00	Gambugio	66	42.03	11.00	7	5 9/16	8 1/8	1.65	Mortise
161652	84.00	Gameful	40	25.49	6.67	7	2 3/8	8 1/8		Pinion

NOTE.—By our Machine Molding Process we can furnish Gears of any kind or dimension with comparatively small pattern expense.

Bevel Mortise Gears in Pairs
With Machine Finished Teeth
2″ Pitch—Continued

For Horse Power transmitted by Bevel Mortise Gears 2″ pitch
See page 462.

Pattern Number	Price, Finished	CODE WORD	No. of Teeth	Pitch Diam., Inches	Pitch Circum., Feet	Face, Inches	Backing, Inches	Standard Length Through Hub, Inches	Speed Ratio	Type of Gears
161801A	$104.00	Gamekeeper	36	22.95	6.01	6½	4⅝	6⅞	1.80	Mortise
161802A	46.00	Gamely	20	12.78	3.35	6½	1⅝	7¼		Pinion
161931	128.00	Gamin	54	34.39	9.00	7	5¼	7½	1.93	Mortise
161932	62.00	Gammon	28	17.86	4.67	7	1¾	7⅞		Pinion
161941	140.00	Gammoning	60	38.21	10.01	7	5½	7⅝	1.94	Mortise
161942	67.00	Gamologia	31	19.77	5.17	7	1 13/16	7⅞		Pinion
162001	140.00	Gamomania	60	38.21	10.01	7	5⅝	7⅝	2.00	Mortise
162002	66.00	Gamonito	30	19.13	5.01	7	1 13/16	8		Pinion
162005	112.00	Gamonosas	44	28.04	7.34	7	5 1/16	7 5/16	2.00	Mortise
162006	50.00	Gamouli	22	14.05	3.68	7	1 9/16	7¾		Pinion
162041A	115.00	Gampilon	51	32.49	8.51	5½	5 7/16	6 11/16	2.04	Mortise
162042A	56.00	Gamuna	25	15.96	4.18	5½	1⅝	6 7/16		Pinion
162091A	121.00	Mulcenda	54	34.39	9.00	6	4	8	2.09	Mortise
162092A	54.00	Mulctrum	26	16.59	4.35	6	1½	6¾		Pinion
162121	165.00	Gamunos	72	45.84	12.01	7	6 3/16	7⅞	2.12	Mortise
162122	73.00	Gamuzada	34	21.68	5.67	7	1 13/16	8		Pinion
162141	201.00	Ganaban	90	57.31	15.02	7	6¾	8 5/16	2.14	Mortise
162142	87.00	Ganables	42	26.76	7.01	7	2	8 3/16		Pinion
162311	140.00	Ganapanes	60	38.21	10.01	7	5⅞	7⅜	2.31	Mortise
162312	58.00	Ganapao	26	16.59	4.35	7	1 7/16	7 13/16		Pinion
162501	140.00	Ganar	60	38.21	10.01	7	5 15/16	7¾	2.50	Mortise
162502	54.00	Gancheado	24	15.32	4.01	7	1⅜	7⅞		Pinion
162541	153.00	Ganches	66	42.03	11.00	7	6	7¼	2.54	Mortise
162542	58.00	Ganchinho	26	16.59	4.35	7	1 7/16	7⅞		Pinion
162671	197.00	Ganchoso	88	56.03	14.69	7	6⅞	7 13/16	2.67	Mortise
162672	71.00	Gandarena	33	21.04	5.51	7	1 9/16	8		Pinion
162821	213.00	Gandelot	96	61.15	16.00	7	7 5/16	8	2.82	Mortise
162822	73.00	Gandjour	34	21.68	5.67	7	1½	8		Pinion
162841	237.00	Gando	108	68.76	18.00	7	7⅝	8¼	2.84	Mortise
162842	80.00	Gandouana	38	24.22	6.34	7	1⅜	7⅞		Pinion
163001	165.00	Gandujado	72	45.84	12.01	7	6 9/16	7⅜	3.00	Mortise
163002	54.00	Gandujamos	24	15.32	4.01	7	1 3/16	7 13/16		Pinion
163331	140.00	Gandujar	60	38.21	10.01	7	6¼	7 1/16	3.33	Mortise
163332	42.00	Gandujaron	18	11.52	3.02	7	1	7⅜		Pinion
163601	165.00	Gandujases	72	45.84	12.01	7	6⅞	7¼	3.60	Mortise
163602	46.00	Gandujeis	20	12.78	3.35	7	15/16	7⅜		Pinion
164001	140.00	Lapdog	60	38.21	10.01	7	6⅜	6¾	4.00	Mortise
164002	38.00	Lapereau	15	9.62	2.52	7	1	7 11/16		Pinion

NOTE.—By our Machine Molding Process we can furnish Gears of any kind or dimension with comparatively small pattern expense.

Bevel Mortise Gears in Pairs

With Machine Finished Teeth

2 1/4″ Pitch

Bevel Mortise Wheels 2¼″ pitch, 8″ face, under ordinary conditions, will transmit 18.94 H. P. at 250 feet per minute on the pitch line, 30.08 H. P. at 500 feet, 39.91 H. P. at 750 feet, 48.46 H. P. at 1,000 feet, 56.45 H. P. at 1,250 feet, 63.81 H. P. at 1,500 feet, 77.42 H. P. at 2,000 feet, 88.94 H. P. at 2,500 feet.

Pattern Number	Price, Finished	CODE WORD	No. of Teeth	Pitch Diam., Inches	Pitch Circum., Feet	Face, Inches	Backing, Inches	Standard Length Through Hub, Inches	Speed Ratio	Type of Gears
181091	$210.00	Ganga	72	51.58	13.51	8	5¾	10¼	1.09	Mortise
181092	161.00	Gangebarum	66	47.29	12.38	8	4⅝	10		Pinion
181111	180.00	Gangabis	60	42.99	11.25	8	5½	9 15/16	1.11	Mortise
181112	135.00	Gangamon	54	38.70	10.13	8	3 1/16	9½		Pinion
181271A	128.00	Lingons	42	30.11	7.88	6½	4 13/16	7¾	1.27	Mortise
181272A	80.00	Lingonum	33	23.67	6.20	6½	2½	7⅛		Pinion
181331	148.00	Gangarilla	48	34.40	9.01	8	5 3/16	9⅛	1.33	Mortise
181332	95.00	Gangart	36	25.82	6.76	8	1⅞	7⅞		Pinion
181361A	198.00	Gangbaar	57	40.84	10.69	9	5 9/16	10	1.36	Mortise
181362A	115.00	Gangbett	42	30.11	7.88	9	3⅛	10		Pinion
181401	195.00	Gangers	66	47.29	12.38	8	5 15/16	9	1.40	Mortise
181402	120.00	Gangeticum	47	33.68	8.82	8	2⅝	8¼		Pinion
181501	116.00	Gangetidem	36	25.82	6.76	8	4 1/16	9½	1.50	Mortise
181502	66.00	Gangetidis	24	17.24	4.51	8	2 3/16	8¾		Pinion
181581	180.00	Gangfisch	60	42.99	11.25	8	5⅞	9 1/16	1.58	Mortise
181582	99.00	Ganghauer	38	27.25	7.13	8	2 11/16	9⅛		Pinion
181651	195.00	Gangherano	66	47.29	12.38	8	6⅛	9	1.65	Mortise
181652	103.00	Ganghero	40	28.68	7.51	8	3 5/16	9¼		Pinion
181911	132.00	Gangliform	42	30.11	7.88	8	5½	8¼	1.91	Mortise
181912	61.00	Gangmasse	22	15.81	4.14	8	1 13/16	8½		Pinion
181941	195.00	Gangoso	66	47.29	12.38	8	6¼	8⅝	1.94	Mortise
181942	90.00	Gangoune	34	24.39	6.39	8	2⅛	9		Pinion
182003	180.00	Gangrenaba	60	42.99	11.25	8	6⅛	8⅜	2.00	Mortise
182004	81.00	Gangrenate	30	21.52	5.64	8	1 15/16	8⅞		Pinion
182201	195.00	Gangrene	66	47.29	12.38	8	6⅝	8½	2.20	Mortise
182202	81.00	Gangreneux	30	21.52	5.64	8	1⅞	9		Pinion
182251	255.00	Gangrening	90	64.47	16.90	8	7½	9⅛	2.25	Mortise
182252	103.00	Gangrenoso	40	28.68	7.51	8	2	9⅛		Pinion
182331	240.00	Gangrenous	84	60.16	15.77	8	7 9/16	9⅛	2.33	Mortise
182332	95.00	Gangrinos	36	25.82	6.76	8	1 15/16	9⅛		Pinion
182501	180.00	Gangspill	60	42.99	11.25	8	6⅝	8⅛	2.50	Mortise
182502	66.00	Gangstein	24	17.24	4.51	8	1 7/16	8¾		Pinion
182551A	330.00	Mulesche	112	80.22	21.02	9	7½	10	2.55	Mortise
182552A	120.00	Mulettino	44	31.54	8.26	9	4	9¾		Pinion
18½2551A	166.00	Lingotant	56	48.12	12.59	6	9	10	2.55	Mortise
18½2552A	58.00	Lingote	22	16.16	4.21	6	1¼	6⅛		Pinion
182821	270.00	Gangsters	96	68.77	18.03	8	8⅛	8 15/16	2.82	Mortise
182822	90.00	Gangueaban	34	24.39	6.39	8	1 7/16	8⅞		Pinion

NOTE.—By our Machine Molding Process we can furnish Gears of any kind or dimension with comparatively small pattern expense.

Bevel Mortise Gears in Pairs
With Machine Finished Teeth
2 1/4″ Pitch—Continued

For Horse Power transmitted by Bevel Mortise Gears 2¼″ pitch
See page 464

Pattern Number	Price, Finished	CODE WORD	No. of Teeth	Pitch Diam., Inches	Pitch Circum., Feet	Face, Inches	Backing, Inches	Standard Length Through Hub, Inches	Speed Ratio	Type of Gears
183001	$240.00	Gangueado	84	60.16	15.77	8	7 15/16	8¾	3.00	Mortise
183002	76.00	Gangueais	28	20.10	5.26	8	1 7/16	8 15/16		Pinion
185251	240.00	Ganguear	84	60.16	15.77	8	8⅞	8⅜	5.25	Mortise
185252	47.00	Gangueille	16	11.53	3.02	8	15/16	8⅜		Pinion

2 1/2″ Pitch

Bevel Mortise Wheels 2½″ pitch, 9″ face, under ordinary conditions, will transmit 23.67 H. P. at 250 feet per minute on the pitch line, 37.60 H. P. at 500 feet, 49.89 H. P. at 750 feet, 60.57 H. P. at 1,000 feet, 70.56 H. P. at 1,250 feet, 79.76 H. P. at 1,500 feet, 96.77 H. P. at 2,000 feet, 111.17 H. P. at 2,500 feet.

201031	$224.00	Gangweg	60	47.77	12.50	9	5 13/16	11¼	1.03	Mortise
201032	169.00	Gangweise	58	46.18	12.08	9	4 13/16	10⅜		Pinion
201101	208.00	Gangzug	55	43.79	11.46	9	4⅞	9⅜	1.10	Mortise
201102	147.00	Ganhanca	50	39.82	10.42	9	4⅛	10⅜		Pinion
201103	163.00	Ganhaperde	42	33.45	8.76	9	5 3/16	10 9/16	1.10	Mortise
201104	116.00	Ganhavel	38	30.27	7.93	9	3⅞	10 1/16		Pinion
201171	163.00	Ganhosino	42	33.45	8.76	9	5¼	10⅜	1.17	Mortise
201172	110.00	Ganiebant	36	28.68	7.51	9	3⅝	10 1/16		Pinion
201173A	180.00	Lingoteira	48	38.22	10.00	8	4⅞	9	1.17	Mortise
201174A	122.00	Lingouard	41	32.65	8.56	8	3⅜	8¾		Pinion
201261	184.00	Ganientis	48	38.22	10.00	9	5⅝	10⅜	1.26	Mortise
201262	116.00	Ganiremus	38	30.27	7.93	9	3⅜	10		Pinion
201291	204.00	Ganizes	54	43.00	11.25	9	5 15/16	10½	1.29	Mortise
201292	126.00	Gannascus	42	33.45	8.76	9	3⅝	10¼		Pinion
201301	224.00	Gannendo	60	47.77	12.50	9	6⅛	10 9/16	1.30	Mortise
201302	136.00	Ganniranno	46	36.64	9.59	9	3 11/16	10 5/16		Pinion
201311	163.00	Gannitus	42	33.45	8.76	9	5 7/16	10⅛	1.31	Mortise
201312	100.00	Gannys	32	25.51	6.68	9	3⅛	9 15/16		Pinion
201421	204.00	Ganoga	54	43.00	11.25	9	6	10⅛	1.42	Mortise
201422	116.00	Ganosos	38	30.27	7.93	9	3⅛	10 1/16		Pinion
201501	265.00	Ganozze	72	57.31	15.00	9	6⅞	10½	1.50	Mortise
201502	142.00	Gansadas	48	38.22	10.00	9	3⅜	10⅜		Pinion
201581A	210.00	Gansette	60	47.77	12.50	8	6 7/16	9½	1.58	Mortise
201582A	116.00	Gansinho	38	30.27	7.93	8	2⅞	9¼		Pinion
201583A	188.00	Gantais	54	43.00	11.25	8	5⅝	8⅜	1.58	Mortise
201584A	105.00	Gantarum	34	27.09	7.10	8	2¼	8½		Pinion
201661	224.00	Ganten	60	47.77	12.50	9	6⅝	10	1.66	Mortise
201662	110.00	Gantgeld	36	28.68	7.51	9	2 11/16	10⅛		Pinion
201751	163.00	Ganthaus	42	33.45	8.76	9	5⅝	9⅞	1.75	Mortise
201752	78.00	Gantiez	24	19.15	5.01	9	2 3/16	9 7/16		Pinion
201951	284.00	Gantions	78	62.08	16.26	9	7	9½	1.95	Mortise
201952	121.00	Gantlokal	40	31.86	8.35	9	2½	10¼		Pinion

NOTE.—By our Machine Molding Process we can furnish Gears of any kind or dimension with comparatively small pattern expense.

Bevel Mortise Gears in Pairs
With Machine Finished Teeth
2 1/2" Pitch—Continued

For Horse Power transmitted by Bevel Mortise Gears, 2½" pitch
See page 465

Pattern Number	Price, Finished	CODE WORD	No. of Teeth	Pitch Diam., Inches	Pitch Circum., Feet	Face, Inches	Backing, Inches	Standard Length Through Hub, Inches	Speed Ratio	Type of Gears
202001	$224.00	Gantlope	60	47.77	12.50	9	6 7/8	9 9/16	2.00	Mortise
202002	94.00	Gantsache	30	23.92	6.26	9	2 3/16	10 1/16		Pinion
202003	184.00	Linguaccia	48	38.22	10.00	9	6 3/8	9 1/4	2.00	Mortise
202004	78.00	Linguacis	24	19.15	5.01	9	2	9 7/16		Pinion
202251	265.00	Gantstube	72	57.31	15.00	9	7 3/8	9 9/16	2.25	Mortise
202252	100.00	Gantzeit	32	25.51	6.68	9	2	10 1/16		Pinion
202333A	410.00	Ganymede	100	79.59	20.84	10	8 11/16	10 7/8	2.33	Mortise
202334A	135.00	Ganymedis	43	34.25	8.97	10	2 3/8	11 5/16		Pinion
202441	284.00	Ganzebout	78	62.08	16.26	9	8 1/8	9 13/16	2.44	Mortise
202442	100.00	Ganzelever	32	25.51	6.68	9	1 15/16	10 1/16		Pinion
202441A	322.00	Ganzenbord	78	62.08	16.26	10	8 1/8	10 1/16	2.44	Mortise
202442A	100.00	Ganzeneb	32	25.51	6.68	10	1 15/16	11		Pinion
202501	224.00	Ganzenhok	60	47.77	12.50	9	7 1/4	9 1/8	2.50	Mortise
202502	78.00	Ganzennest	24	19.15	5.01	9	1 13/16	9 13/16		Pinion
203951A	265.00	Mulgebat	83	66.07	17.30	5	8 3/4	7½	3.95	Mortise
203952A	70.00	Mulgemur	21	16.77	4.39	5	½	5		Pinion

2 3/4" Pitch

Bevel Mortise Wheels 2¾" pitch, 10" face, under ordinary conditions, will transmit 28.93 H. P. at 250 feet per minute on the pitch line, 45.95 H. P. at 500 feet, 60.97 H. P. at 750 feet, 74.03 H. P. at 1,000 feet, 86.24 H. P. at 1,250 feet, 97.49 H. P. at 1,500 feet, 118.28 H. P. at 2,000 feet, 135.88 H. P. at 2,500 feet.

221081	$247.00	Ganzenoog	54	47.30	12.39	10	6 1/8	12	1.08	Mortise
221082	181.00	Ganzenpoel	50	43.80	11.47	10	4 7/8	11 9/16		Pinion
221311	213.00	Ganzenveld	46	40.30	10.56	10	4 3/4	10	1.31	Mortise
221312	132.00	Ganzenvet	35	30.68	8.04	10	3 5/8	11 1/4		Pinion
221421	247.00	Ganzepe	54	47.30	12.39	10	6 3/4	11 1/4	1.42	Mortise
221422	143.00	Ganzepoot	38	33.30	8.72	10	3 7/16	11 1/8		Pinion
221501A	156.00	Ganzopfer	36	31.56	8.26	8½	4½	11 3/8	1.50	Mortise
221502A	170.00	Ganzpacht	54	47.30	12.39	8½	5 15/16	9 3/4		Pinion
221541	300.00	Ganzton	66	57.79	15.14	10	8½	12	1.54	Mortise
221542	160.00	Ganzwelt	43	37.68	9.87	10	3 9/16	11 1/4		Pinion
221561A	395.00	Gaoler	75	65.67	17.20	12	5 1/8	10 3/16	1.56	Mortise
221562A	205.00	Gaoutama	48	42.05	11.02	12	2 3/8	12		Pinion
221771	281.00	Gapencais	62	54.29	14.22	10	7 3/8	10 13/16	1.77	Mortise
221772	132.00	Gapende	35	30.68	8.04	10	2 3/4	11 1/16		Pinion
221941	300.00	Gaphara	66	57.79	15.14	10	7 3/4	10 3/4	1.94	Mortise
221942	130.00	Gapingen	34	29.80	7.81	10	2 5/8	11 1/4		Pinion

NOTE.—By our Machine Molding Process, we can furnish Gears of any kind or dimension with comparatively small pattern expense.

Bevel Mortise Gears in Pairs

With Machine Finished Teeth

3″ Pitch

Bevel Mortise Wheels 3″ pitch, 11″ face, under ordinary conditions, will transmit 34.72 H. P. at 250 feet per minute on the pitch line, 55.14 H. P. at 500 feet, 73.16 H. P. at 750 feet, 88.84 H. P. at 1,000 feet, 103.49 H. P. at 1,250 feet, 116.98 H. P. at 1,500 feet, 141.93 H. P. at 2,000 feet, 163.05 H. P. at 2,500 feet.

Pattern Number	Price, Finished	CODE WORD	No. of Teeth	Pitch Diam., Inches	Pitch Circum., Feet	Face, Inches	Backing, Inches	Standard Length Through Hub, Inches	Speed Ratio	Type of Gears
241041	$269.00	Garcon	48	45.87	12.01	11	$6\frac{5}{16}$	13	1.04	Mortise
241042	206.00	Gardais	46	43.96	11.51	11	$5\frac{1}{4}$	$12\frac{7}{16}$		Pinion
241251	331.00	Gardening	60	57.32	15.00	11	$7\frac{1}{4}$	$12\frac{7}{8}$	1.25	Mortise
241252	214.00	Gardenless	48	45.87	12.01	11	$4\frac{11}{16}$	$12\frac{5}{8}$		Pinion
241331	269.00	Gardenly	48	45.87	12.01	11	7	$12\frac{9}{16}$	1.33	Mortise
241332	165.00	Gradenship	36	34.42	9.01	11	$3\frac{15}{16}$	$12\frac{1}{4}$		Pinion
241431	331.00	Garderais	60	57.32	15.00	11	$7\frac{7}{16}$	$12\frac{3}{8}$	1.43	Mortise
241432	190.00	Gardiennat	42	40.14	10.51	11	$3\frac{7}{8}$	$12\frac{3}{8}$		Pinion
241741	362.00	Gardiez	66	63.05	16.50	11	8	$11\frac{3}{4}$	1.74	Mortise
241742	174.00	Gardoque	38	36.33	9.51	11	$3\frac{1}{8}$	$12\frac{1}{8}$		Pinion
241761	331.00	Gardujas	60	57.32	15.00	11	$7\frac{7}{8}$	$11\frac{3}{4}$	1.76	Mortise
241762	157.00	Garduna	34	32.51	8.51	11	3	$12\frac{1}{8}$		Pinion
241831	362.00	Gardunos	66	63.05	16.50	11	$8\frac{5}{16}$	$11\frac{15}{16}$	1.83	Mortise
241832	165.00	Gardvogt	36	34.42	9.01	11	$3\frac{1}{16}$	$12\frac{1}{4}$		Pinion
241953A	423.00	Garela	72	68.78	18.00	12	$9\frac{1}{8}$	$12\frac{1}{16}$	1.95	Mortise
241954A	180.00	Garenbakje	37	35.38	9.26	12	$2\frac{3}{8}$	$12\frac{1}{8}$		Pinion
242001	269.00	Garendoos	48	45.87	12.01	11	$7\frac{5}{8}$	$11\frac{1}{8}$	2.00	Mortise
242002	116.00	Garenklos	24	22.99	6.02	11	$2\frac{5}{16}$	$11\frac{7}{8}$		Pinion
242003A	360.00	Garenmolen	76	72.60	19.00	9	$8\frac{5}{8}$	$10\frac{1}{4}$	2.00	Mortise
242004A	165.00	Garenprop	38	36.33	9.51	9	$2\frac{3}{4}$	$10\frac{1}{4}$		Pinion
242531A	625.00	Mulgenda	104	99.32	26.00	10	$12\frac{1}{8}$	$13\frac{1}{4}$	2.53	Mortise
242532A	180.00	Mulherigo	41	39.19	10.26	10	$\frac{15}{16}$	$10\frac{1}{8}$		Pinion

3¼″ Pitch

Bevel Mortise Wheels 3¼″ pitch, 12″ face, under ordinary conditions, will transmit 41.03 H. P. at 250 feet per minute on the pitch line, 65.17 H. P. at 500 feet, 86.46 H. P. at 750 feet, 105.00 H. P. at 1,000 feet, 122.30 H. P. at 1,250 feet, 138.26 H. P. at 1,500 feet, 167.74 H. P. at 2,000 feet, 192.70 H. P. at 2,500 feet.

261041	.....	Garenol	48	49.60	13.01	12	$6\frac{3}{4}$	$14\frac{1}{4}$	1.04	Mortise
261042	.....	Garenstrop	46	47.62	12.47	12	$5\frac{3}{4}$	$13\frac{1}{2}$		Pinion
261171	.....	Garenwiel	54	55.90	14.63	12	$7\frac{3}{16}$	$13\frac{7}{8}$	1.17	Mortise
261172	.....	Garenzak	46	47.62	12.47	12	$3\frac{13}{16}$	$12\frac{1}{16}$		Pinion

NOTE.—By our Machine Molding Process we can furnish Gears of any kind or dimension with comparatively small pattern expense.

Bevel Mortise Gears in Pairs

With Machine Finished Teeth

3½″ Pitch

Bevel Mortise Wheels 3½″ pitch, 13″ face, under ordinary conditions, will transmit 47.86 H. P. at 250 feet per minute on the pitch line, 76.03 H. P. at 500 feet, 100.87 H. P. at 750 feet, 122.49 H. P. at 1,000 feet, 142.69 H. P. at 1,250 feet, 161.30 H. P. at 1,500 feet, 195.70 H. P. at 2,000 feet, 224.82 H. P. at 2,500 feet.

Pattern Number	Price on Application	CODE WORD	No. of Teeth	Pitch Diam., Inches	Pitch Circum., Feet	Face, Inches	Backing, Inches	Standard Length Through Hub, Inches	Speed Ratio	Type of Gears
281241	.....	Garer	42	46.84	12.27	13	7½	14⅝	1.24	Mortise
281242	.....	Garfeando	34	37.93	9.94	13	4¾	14⅝		Pinion
281321	.....	Garfeare	45	50.18	13.15	13	7⅝	14⅜	1.32	Mortise
281322	.....	Garfios	34	37.93	9.94	13	4½	14⅝		Pinion
281583	.....	Garfish	49	54.63	14.31	13	8 5/16	13⅞	1.58	Mortise
281584	.....	Garfjes	31	34.59	9.06	13	3 11/16	14¼		Pinion
282141	.....	Garfuana	60	66.88	17.52	13	9 13/16	13⅜	2.14	Mortise
282142	.....	Gargalia	28	31.26	8.19	13	2 13/16	14 5/16		Pinion
282251	.....	Gargale	72	80.24	21.02	13	10 11/16	13 15/16	2.25	Mortise
282252	.....	Gargalejar	32	35.71	9.36	13	2 15/16	14 7/16		Pinion
283331	.....	Gargalhada	60	66.88	17.52	13	10½	12¼	3.33	Mortise
283332	.....	Gargalho	18	20.15	5.28	13	1½	13½		Pinion

4″ Pitch

Bevel Mortise Wheels 4″ pitch, 15″ face, under ordinary conditions, will transmit 63.12 H. P. at 250 feet per minute on the pitch line, 100.26 H. P. at 500 feet, 133.02 H. P. at 750 feet, 161.52 H. P. at 1,000 feet, 188.16 H. P. at 1,250 feet, 212.70 H. P. at 1,500 feet, 258.06 H. P. at 2,000 feet, 296.46 H. P. at 2,500 feet.

322001A	.....	Gargalize	48	61.16	16.00	12	9⅞	13 1/16	2.00	Mortise
322002A	.....	Gargalone	24	30.65	8.02	12	2⅞	13 11/16		Pinion
322091	.....	Gargamelle	48	61.16	16.00	15	10⅞	15	2.09	Mortise
322092	.....	Garganega	23	29.38	7.69	15	2⅞	15⅝		Pinion
322571	.....	Garganello	72	91.70	24.00	15	12 1/16	15⅛	2.57	Mortise
322572	.....	Garganey	28	35.73	9.35	15	2⅝	16¼		Pinion
322651A	.....	Gargantear	90	114.62	30.00	16	12⅜	15⅜	2.65	Mortise
322652A	.....	Garganto	34	43.35	11.35	16	2 15/16	17½		Pinion
323131	.....	Gargantuan	72	91.70	24.00	15	13⅜	16	3.13	Mortise
323132	.....	Gargaphia	23	29.38	7.69	15	2¾	16		Pinion

5″ Pitch

Bevel Mortise Wheels 5″ pitch, 19″ face, under ordinary conditions, will transmit 99.94 H. P. at 250 feet per minute on the pitch line, 158.75 H. P. at 500 feet, 210.62 H. P. at 750 feet, 255.74 H. P. at 1,000 feet, 297.92 H. P. at 1,250 feet, 336.78 H. P. at 1,500 feet, 408.60 H. P. at 2,000 feet, 469.40 H. P. at 2,500 feet.

401201	.....	Gargarejo	30	47.83	12.52	19	10	20 5/16	1.20	Mortise
401202	.....	Gargarisme	25	39.89	10.44	19	6⅜	20		Pinion
401631	.....	Lapelled	44	70.09	18.34	19	11¾	20¼	1.63	Mortise
401632	.....	Lapemis	27	47.03	11.27	19	5	20		Pinion

NOTE.—By our Machine Molding Process we can furnish Gears of any kind or dimension with comparatively small pattern expense.

Miter Mortise Gears in Pairs

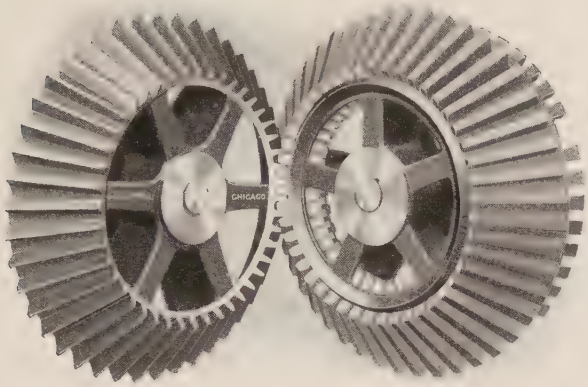


Fig. 45448. (*Landkammer*)

Our Miter Mortise Wheels have the teeth accurately finished in gear cutting machines after the wheel is filled, and the teeth of the miter mortise pinions are also accurately machine finished in gear cutters.

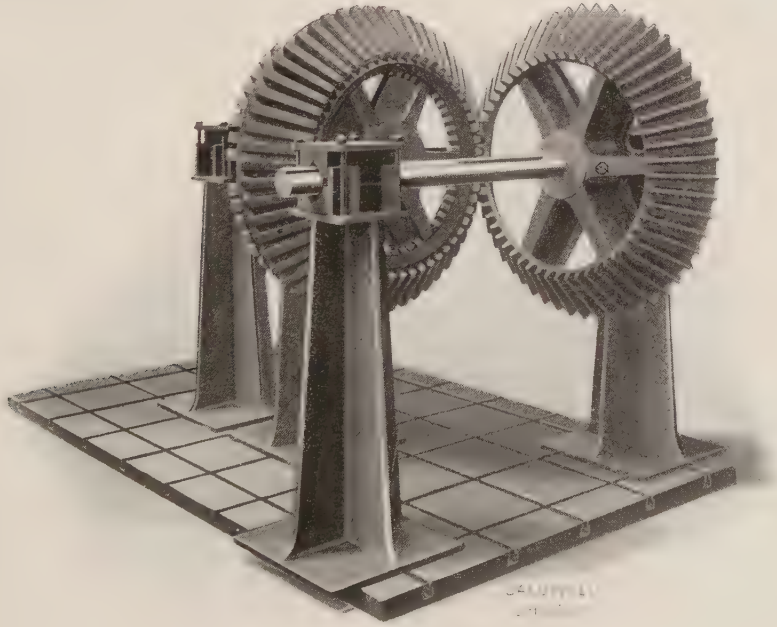


Fig. 45449. (*Landhopfen*)

The above cut shows a Special Testing Stand for determining the accuracy of bevel and miter gears before shipment.

Miter Mortise Gears in Pairs

With Machine Finished Teeth

1 1/2″ Pitch

Miter Mortise Wheels 1½″ pitch, 5″ face, under ordinary conditions, will transmit 7.89 H. P. at 250 feet per minute on the pitch line, 12.53 H. P. at 500 feet, 16.63 H. P. at 750 feet, 20.19 H. P. at 1,000 feet, 23.52 H. P. at 1,250 feet, 26.59 H. P. at 1,500 feet, 32.26 H. P. at 2,000 feet, 37.06 H. P. at 2,500 feet.

Pattern Number	Price, Bored With K. S. Or S. S.	CODE WORD	Number of Teeth	Pitch Diam., Inches	Pitch Circum. Feet	Face, Inches	Backing, Inches	Standard Length Through Hub, Inches	Type of Gears
12041	$ 55.00	Habarala	41	19.60	5.13	5	2½	5¾	Pinion
12042	90.00	Habascon	42	20.07	5.26	5	3⅛	6¼	Mortise
12054	71.00	Habasque	54	25.80	6.75	5	2 13/16	6	Pinion
12054	103.00	Habaziniah	54	25.80	6.75	5	3¼	6¼	Mortise
12065	84.00	Habebamus	65	31.05	8.12	5	3 1/16	6¼	Pinion
12066	118.00	Habebat	66	31.52	8.25	5	3¾	6⅝	Mortise

1 3/4″ Pitch

Miter Mortise Wheels 1¾″ pitch, 6″ face, under ordinary conditions, will transmit 11.05 H. P. at 250 feet per minute on the pitch line, 17.55 H. P. at 500 feet, 23.28 H. P. at 750 feet, 28.27 H. P. at 1,000 feet, 32.93 H. P. at 1,250 feet, 37.22 H. P. at 1,500 feet, 45.16 H. P. at 2,000 feet, 51.88 H. P. at 2,500 feet.

14030-A	$ 45.00	Habebis	30	16.74	4.38	3	2	3¾	Pinion
14030-A	72.00	Haben	30	16.74	4.38	3	3⅜	4 1/16	Mortise
14032-A	48.00	Habenaria	32	17.85	4.67	3	2⅛	3¾	Pinion
14032-A	76.00	Habendorum	32	17.85	4.67	3	3⅜	4⅝	Mortise
14035	62.00	Habendos	35	19.52	5.10	6	2¾	6 1/16	Pinion
14036	90.00	Habenry	36	20.08	5.25	6	3 7/16	7 3/16	Mortise
14043-A	65.00	Habentibus	43	23.97	6.27	4½	3¼	5⅞	Pinion
14043-A	96.00	Habenula	43	23.97	6.27	4½	4¼	6 1/16	Mortise
14045	77.00	Haberbrot	45	25.09	6.56	6	3	6⅞	Pinion
14046	104.00	Haberdash	46	25.64	6.71	6	3¾	7⅜	Mortise
14050	85.00	Haberdine	50	27.87	7.30	6	3 15/16	7 1/16	Pinion
14050	112.00	Habergeon	50	27.87	7.30	6	4 3/16	7 11/16	Mortise
14059	100.00	Habermann	59	32.88	8.61	6	2⅞	6⅝	Pinion
14060	129.00	Haberrohr	60	33.44	8.76	6	4 1/16	7⅝	Mortise
14071	116.00	Habertrank	71	39.56	10.36	6	3¼	6¾	Pinion
14072	141.00	Habest	72	40.12	10.51	6	4 7/16	7⅞	Mortise

2″ Pitch

Miter Mortise Wheels 2″ pitch, 7″ face, under ordinary conditions, will transmit 14.73 H. P. at 250 feet per minute on the pitch line, 23.39 H. P. at 500 feet, 31.04 H. P. at 750 feet, 37.69 H. P. at 1,000 feet, 43.90 H. P. at 1,250 feet, 49.63 H. P. at 1,500 feet, 60.21 H. P. at 2,000 feet, 69.17 H. P. at 2,500 feet.

16035	$ 75.00	Habgier	35	22.31	5.84	7	3 5/16	8	Pinion
16036	102.00	Habgierig	36	22.95	6.01	7	3 15/16	8 7/16	Mortise
16041	86.00	Habhaft	41	26.13	6.84	7	3½	8⅛	Pinion
16041	110.00	Habicht	41	26.13	6.84	7	4⅛	8⅝	Mortise
16041	86.00	Habbaft	41	26.13	6.84	7	3½	8⅛	Pinion
16042	114.00	Mulinerete	42	26.76	7.01	7	4⅛	8⅝	Mortise
16042	88.00	Linguagem	42	26.76	7.01	7	4 9/16	8⅞	Pinion

NOTE.—By our Machine Molding Process we can furnish Gears of any kind or dimension with comparatively small pattern expense.

Miter Mortise Gears in Pairs
With Machine Finished Teeth
2″ Pitch—Continued

For Horse Power Transmitted by Miter Mortise Gears 2″ pitch
See page 470

Pattern Number	Price Bored, With K. S. Or S. S.	CODE WORD	No. of Teeth	Pitch Diam., Inches	Pitch Circum., Feet	Face, Inches	Backing, Inches	Standard Length Through Hub, Inches	Type of Gears
16054	$110.00	Habichuela	54	34.39	9.00	7	3⅞	8 7/16	Pinion
16054	128.00	Habilable	54	34.39	9.00	7	4 7/16	8¾	Mortise
16055	112.00	Habilatory	55	35.03	9.17	7	3⅞	8⅜	Pinion
16056	132.00	Habilement	56	35.67	9.34	7	4½	8¾	Mortise
16055-A	127.00	Habilidade	55	35.03	9.17	8	3⅞	9⅛	Pinion
16056-A	154.00	Habilites	56	35.67	9.34	8	4 9/16	9⅝	Mortise
16065	129.00	Habilium	65	41.40	10.84	7	4¼	8 11/16	Pinion
16066	153.00	Habillant	66	42.03	11.00	7	4 13/16	9⅛	Mortise

2 1/4″ Pitch

Miter Mortise Wheels 2¼″ pitch, 8″ face, under ordinary conditions, will transmit 18.94 H. P. at 250 feet per minute on the pitch line, 30.08 H. P. at 500 feet, 39.91 H. P. at 750 feet, 48.46 H. P. at 1,000 feet, 56.45 H. P. at 1,250 feet, 63.81 H. P. at 1,500 feet, 77.42 H. P. at 2,000 feet, 88.94 H. P. at 2,500 feet.

18027-A	$ 67.00	Habillions	27	19.38	5.08	6	3	6⅞	Pinion
18027-A	85.00	Habitaba	27	19.38	5.08	6	4 1/16	7 15/16	Mortise
18031	83.00	Habitabunt	31	22.24	5.83	8	3½	8⅞	Pinion
18032	106.00	Habitaculo	32	22.95	6.01	8	4¼	9½	Mortise
18041	106.00	Habitais	41	29.39	7.70	8	3 13/16	9	Pinion
18042	132.00	Habitance	42	30.11	7.88	8	4¼	9¼	Mortise
18042	108.00	Habitant	42	30.11	7.88	8	3⅞	9⅛	Pinion
18054	135.00	Habitarent	54	38.70	10.13	8	4⅜	9½	Pinion
18054	165.00	Habitaron	54	38.70	10.13	8	4⅞	9⅞	Mortise
18065	159.00	Habitation	65	46.57	12.19	8	4 11/16	9¾	Pinion
18066	195.00	Habitator	66	47.29	12.38	8	5½	10¼	Mortise
18065-A	149.00	Habitatrix	65	46.57	12.19	7	4 11/16	9	Pinion
18066-A	180.00	Habitavel	66	47.29	12.38	7	5½	9½	Mortise

2 1/2″ Pitch

Miter Mortise Wheels 2½″ pitch, 9″ face, under ordinary conditions, will transmit 23.67 H. P. at 250 feet per minute on the pitch line, 37.60 H. P. at 500 feet, 49.89 H. P. at 750 feet, 60.57 H. P. at 1,000 feet, 70.56 H. P. at 1,250 feet, 79.76 H. P. at 1,500 feet, 96.77 H. P. at 2,000 feet, 111.17 H. P. at 2,500 feet.

20036	$111.00	Habiteriez	36	28.68	7.51	9	4⅛	10 1/16	Pinion
20036	142.00	Habitionem	36	28.68	7.51	9	4¾	10⅛	Mortise
20047	140.00	Habitionis	47	37.43	9.80	9	4½	10 5/16	Pinion
20048	184.00	Habitivi	48	38.22	10.00	9	5¼	10¾	Mortise
20059	171.00	Habitivos	59	46.98	12.29	9	4⅞	10⅝	Pinion
20060	225.00	Habitorum	60	47.77	12.50	9	5¾	11¼	Mortise
20060	175.00	Habitos	60	47.77	12.50	9	5	10¾	Pinion

NOTE.—By our Machine Molding Process we can furnish Gears of any kind or dimension with comparatively small pattern expense.

Miter Mortise Gears in Pairs

With Machine Finished Teeth

2¾″ Pitch

Miter Mortise Wheels 2¾″ pitch, 10″ face, under ordinary conditions, will transmit 28.93 H. P. at 250 feet per minute on the pitch line, 45.95 H. P. at 500 feet, 60.97 H. P. at 750 feet, 74.03 H. P. at 1,000 feet, 86.24 H. P. at 1,250 feet, 97.49 H. P. at 1,500 feet, 118.28 H. P. at 2,000 feet, 135.88 H. P. at 2,500 feet.

Pattern Number	Price Bored, With K. S. Or S. S.	CODE WORD	No. of Teeth	Pitch Diam., Inches	Pitch Circum., Feet	Face, Inches	Backing, Inches	Standard Length Through Hub, Inches	Type of Gears
22040-A	$162.00	Haceldama	40	35.06	9.18	11	3½	10¾	Pinion
22040-A	203.00	Hacendaban	40	35.06	9.18	11	4¾	12	Mortise
22041	152.00	Hacendadas	41	35.93	9.41	10	4¾	11⅛	Pinion
22042	195.00	Hacendais	42	36.80	9.64	10	5½	11⅞	Mortise
22065	230.00	Hacendar	65	56.92	14.91	10	5¾	12	Pinion
22066	300.00	Hacendemos	66	57.79	15.14	10	6½	12⅝	Mortise

3″ Pitch

Miter Mortise Wheels 3″ pitch, 11″ face, under ordinary conditions, will transmit 34.72 H. P. at 250 feet per minute on the pitch line, 55.14 H. P. at 500 feet, 73.16 H. P. at 750 feet, 88.84 H. P. at 1,000 feet, 103.49 H. P. at 1,250 feet, 116.98 H. P. at 1,500 feet, 141.93 H. P. at 2,000 feet, 163.05 H. P. at 2,500 feet.

24047	$210.00	Hacendista	47	44.92	11.76	11	5⅜	12⅜	Pinion
24048	270.00	Hachage	48	45.87	12.01	11	6⅛	13 1/16	Mortise
24050	220.00	Hachaliah	50	47.78	12.51	11	5⅝	12 9/16	Pinion
24050	280.00	Hachazo	50	47.78	12.51	11	6 5/16	13 3/16	Mortise

3½″ Pitch

Miter Mortise Wheels 3½″ pitch, 13″ face, under ordinary conditions, will transmit 47.86 H. P. at 250 feet per minute on the pitch line, 76.03 H. P. at 500 feet, 100.87 H. P. at 750 feet, 122.49 H. P. at 1,000 feet, 142.69 H. P. at 1,250 feet, 161.30 H. P. at 1,500 feet, 195.70 H. P. at 2,000 feet, 224.82 H. P. at 2,500 feet.

28054	.....	Hackbank	54	60.20	15.76	13	12⅝	14½	Pinion
28054	.....	Hackbeil	54	60.20	15.76	13	7 1/16	13⅞	Mortise

4″ Pitch

Miter Mortise Wheels 4″ pitch, 15″ face, under ordinary conditions, will transmit 63.12 H. P. at 250 feet per minute on the pitch line, 100.26 H. P. at 500 feet, 133.02 H. P. at 750 feet, 161.52 H. P. at 1,000 feet, 188.16 H. P. at 1,250 feet, 212.70 H. P. at 1,500 feet, 258.06 H. P. at 2,000 feet, 296.46 H. P. at 2,500 feet.

32047	.....	Hadbote	47	59.89	15.67	15	7¼	17	Pinion
32048	.....	Haddocks	48	61.16	16.00	15	8 5/16	17⅝	Mortise

4½″ Pitch

Miter Mortise Wheels 4½″ pitch, 15″ face, under ordinary conditions, will transmit 71.01 H. P. at 250 feet per minute on the pitch line, 112.79 H. P. at 500 feet, 149.65 H. P. at 750 feet, 181.71 H. P. at 1,000 feet, 211.68 H. P. at 1,250 feet, 239.29 H. P. at 1,500 feet, 290.32 H. P. at 2,000 feet, 333.52 H. P. at 2,500 feet.

36032-A	.....	Mulleresel	32	45.91	12.02	15	7 15/16	17½	Mortise
36032-A	.....	Mulsitur	32	45.91	12.02	15	6⅝	16¼	Pinion

NOTE.—By our Machine Moulding Process we can furnish Gears of any kind or dimension with comparatively small pattern expense.

Large Split Gear Ring

Fig. 45450. (*Linguaggio*)

By the machine molding process we can make large Ring Gears, such as are used on rotary kilns, driers, etc., with very little pattern expense. Prices will be quoted upon receipt of specifications. We can manufacture gears up to 20 feet in diameter and 20 tons in weight.

Maple Cogs and Keys for Mortise Gears

Fig. 45451. (*Linguale*)
Spur Cogs and Key

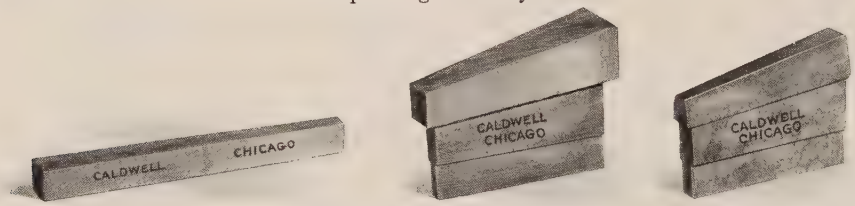


Fig. 45452. (*Linguarez*)
Bevel Cogs and Key

Our Maple Cogs and Keys are made from thoroughly dried hard maple, soaked in oil before shipment. In ordering cogs to fit gears of our manufacture, give number of gear and date of original purchase. If gear is not of our make, or where information as to original purchase is not available, always send an old cog and key for sample, if possible. If impossible to spare an old cog, give all dimensions called for on diagram on next page.

We always furnish cogs with shank slightly larger than finished size, to allow for fitting into wheel. Shank should be a snug drive fit into wheel.

Price list on next page.

Fig. 45453. (*Linguarudo*)
Spur Cog for Wide Face Gear

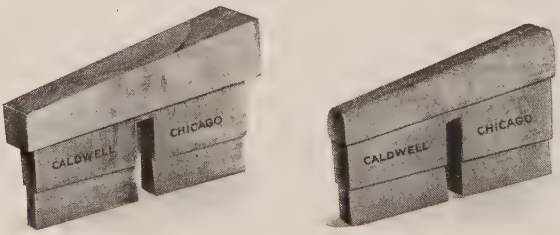
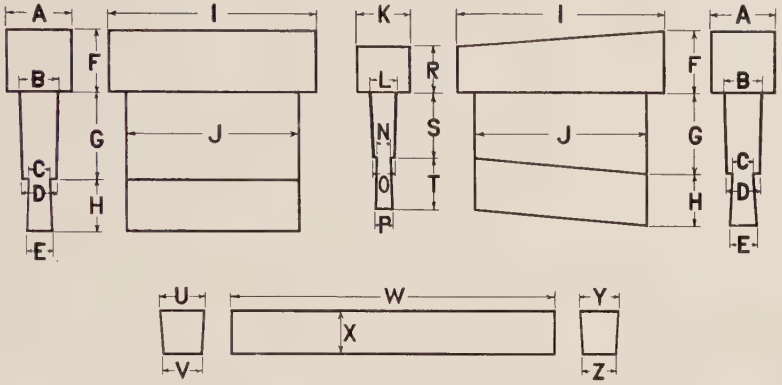


Fig. 45454. (*Linguarum*)
Bevel Cog for Wide Face Gear

Maple Cogs for Keys, for Mortise Gears



In ordering cogs to refill gears of our manufacture, give the number of the gear and date of shipment, if possible. Where the gears are not of our make, give all the dimensions asked for in the diagrams above, or send a sample cog.

When measuring cogs give exact sizes, as we will make the cogs slightly larger to allow for fitting.

Prices below are for 40 or more teeth of one size. Prices will be quoted upon application for smaller quantities and for cogs of special dimensions.

Price List, Subject to Discount

Face, Inches	Maximum Width "A," Inches	Price, Each			Face, Inches	Maximum Width "A," Inches	Price, Each		
		Rough Cog	Finished Cog	Key			Rough Cog	Finished Cog	Key
3	1¼	$0.35	$0.40	$0.10	11	2¼	$1.30	$1.50	$0.25
4	1¼	.40	.45	.10	12	2⅜	1.50	1.75	.30
5	1¼	.45	.50	.10	13	2½	1.75	2.10	.35
6	1½	.55	.60	.15	14	2¾	2.10	2.50	.40
7	1½	.65	.70	.15	15	2⅞	2.50	3.00	.50
8	1¾	.75	.85	.15	16	3⅛	2.90	3.50	.60
9	1⅞	.90	1.00	.20	17	3⅜	3.50	4.25	.70
10	2	1.10	1.25	.20	18	3¾	4.10	5.00	.85

Cast Tooth Worm Gears

Fig. 45455. (*Landhof*)

Cast Tooth Cast Iron Worm Wheels should only be used for slow speeds, up to 450 feet per minute on the pitch line of the worm. Worm gears should always be lubricated, and preferably the worm should run in a bath of oil. For heavy service and high speeds, we recommend the use of cut worm gears, with housings, as listed on pages 481 to 484.

The power transmitted by worm gears depends so much on the character of the drive and whether the service is continuous or intermittent, that it is practically impossible to make up a table of horse powers which would cover all conditions. We will be glad to give our recommendations as to the suitability of worm gears for any particular drive upon receipt of all information.

In telegraphing, use code for bores as given on page 372.

Cast Tooth Worm Gears

1″ Pitch

CAST WHEELS				CAST WORMS					Relation			CODE WORD
Pattern Number	Price of Wheel	No. of Teeth	Extreme Face, Inches	Pattern Number	Price of Worm	Pitch Diam. Inches	Standard Length, Inches	R. or L. Hand	Largest Bore	Speed Ratio	Distance Between Centers	For both Wheel and Worm See Note
8030D	$17.50	30	2¼	8044D	$7.50	5½	4	R.	3 3/16	15.	7 3/8	Larme
8032D	18.00	32	2¼	8044D	7.50	5½	4	R.	3 3/16	16.	7 45/64	Larron
8040D	21.00	40	2¼	8044D	7.50	5½	4	R.	3 3/16	20.	8 31/32	Lascon
8050D	24.90	50	2¼	8044D	7.50	5½	4	R.	3 3/16	25.	10 9/16	Lasha
8051A	25.50	51	2	8030	5.50	3¾	3¾	R.	1 15/16	51.	9 7/8	Lastro
8062D	28.00	62	2¼	8044D	7.50	5½	4	R.	3 3/16	31.	12 15/32	Latein
8062B	28.00	62	2	8030	5.50	3¾	3¾	R.	1 15/16	62.	11 19/32	Lathy
8070D	29.90	70	2¼	8044D	7.50	5½	4	R.	3 3/16	35.	13¾	Latria
8080D	31.75	80	2¼	8044D	7.50	5½	4	R.	3 3/16	40.	15 21/64	Latzes
8113D	38.50	113	2¼	8044D	7.50	5½	4	R.	3 3/16	56.5	20¾	Laubig

1 1/8″ Pitch

9029	$23.40	29	2½	9027	$4.75	3⅜	3½	R.&L.	1 11/16	29.	6 23/32	Lauded
9029D	23.40	29	2½	9027D	4.75	3⅜	3½	R.	1 11/16	14.5	6 23/32	Launch
9034	24.60	34	2½	9027	4.75	3⅜	3½	R.&L.	1 11/16	34.	7 39/64	Lavolt
9034D	24.60	34	2½	9027D	4.75	3⅜	3½	R.	1 11/16	17.	7 39/64	Lavons
9037	25.80	37	2½	9027	4.75	3⅜	3½	R.&L.	1 11/16	37.	8 3/16	Lavure
9037D	25.80	37	2½	9027D	4.75	3⅜	3½	R.	1 11/16	18.5	8 3/16	Lawful
9038	26.20	38	2½	9027	4.75	3⅜	3½	R.&L.	1 11/16	38.	8⅜	Laxanz
9038D	26.20	38	2½	9027D	4.75	3⅜	3½	R.	1 11/16	19.	8⅜	Laxity
9044	28.60	44	2½	9027	4.75	3⅜	3½	R.&L.	1 11/16	44.	9 13/32	Laxos
9044D	28.60	44	2½	9027D	4.75	3⅜	3½	R.	1 11/16	22.	9 13/32	Layman
9048	30.20	48	2½	9027	4.75	3⅜	3½	R.&L.	1 11/16	48.	10⅛	Lazada
9048D	30.20	48	2½	9027D	4.75	3⅜	3½	R.	1 11/16	24.	10⅛	Lazaro
9052	31.80	52	2½	9027	4.75	3⅜	3½	R.&L.	1 11/16	52.	10⅞	Lazily
9052D	31.80	52	2½	9027D	4.75	3⅜	3½	R	1 11/16	26.	10⅞	Lazios
9053	32.20	53	2½	9027	4.75	3⅜	3½	R.&L.	1 11/16	53.	11	Lazuli
9053D	32.20	53	2½	9027D	4.75	3⅜	3½	R.	1 11/16	26.5	11	Lazur
9054	32.60	54	2½	9027	4.75	3⅜	3½	R.&L.	1 11/16	54.	11 3/16	Lazzi
9054D	32.60	54	2½	9027D	4.75	3⅜	3½	R.	1 11/16	27.	11 3/16	Learn
9060	35.00	60	2½	9027	4.75	3⅜	3½	R.&L.	1 11/16	60.	12 17/64	Leases
9060D	35.00	60	2½	9027D	4.75	3⅜	3½	R.	1 11/16	30.	12 17/64	Lebete
9070	39.00	70	2½	9027	4.75	3⅜	3½	R.&L.	1 11/16	70.	14 1/16	Lebias
9070D	39.00	70	2½	9027D	4.75	3⅜	3½	R.	1 11/16	35.	14 1/16	Leblos
9080	43.00	80	2½	9027	4.75	3⅜	3½	R.&L.	1 11/16	80.	15 27/32	Lebrel
9080D	43.00	80	2½	9027D	4.75	3⅜	3½	R.	1 11/16	40.	15 27/32	Lebtag

1 1/4″ Pitch

10011	$12.00	11	2¾	10030	$5.50	3¾	3¾	R.	1 15/16	11.	3 7/8	Ledaea
10020	22.55	20	2¾	10030	5.50	3¾	3¾	R.	1 15/16	20.	5 11/16	Leeway
10024	24.15	24	2¾	10030	5.50	3¾	3¾	L.	1 15/16	24.	6⅜	Lefzen
10024A	24.15	24	2¾	10032A	7.50	4	5	R.	2 3/16	24.	6½	Lagajo
10025	24.55	25	2¾	10030	5.50	3¾	3¾	L.	1 15/16	25.	6 43/64	Legal

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For Cut Gear Lists see pages 482 to 502.

Cast Tooth Worm Gears—Continued

1¼" Pitch—Continued

CAST WHEELS				CAST WORMS						Relation		CODE WORD
Pattern Number	Price of Wheel	No. of Teeth	Extreme Face, Inches	Pattern Number	Price of Worm	Pitch Diam. Inches	Standard Length, Inches	R. or L. Hand	Largest Bore	Speed Ratio	Distance Between Centers	For both Wheel and Worm See Note
10029	$26.15	29	2¾	10030	$5.50	3¾	3¾	R.&L.	1 15/16	29.	7 15/32	Legant
10031	26.95	31	2¾	10030	5.50	3¾	3¾	R.&L.	1 15/16	31.	7 7/8	Legava
10035	28.75	35	2¾	10030	5.50	3¾	3¾	R.&L.	1 15/16	35.	8 21/32	Legbar
10038	30.10	38	2¾	10030	5.50	3¾	3¾	R.&L.	1 15/16	38.	9 1/16	Legend
10040	31.00	40	2¾	10030	5.50	3¾	3¾	R.&L.	1 15/16	40.	9 21/32	Leguli
10041A	31.45	41	2¾	10032A	7.50	4	5	R.	2 3/16	41.	10	Legume
10045	33.25	45	2¾	10030	5.50	3¾	3¾	R.&L.	1 15/16	45.	10 41/64	Lehoux
10050	35.50	50	2¾	10030	5.50	3¾	3¾	R.&L.	1 15/16	50.	11 41/64	Leiais
10055	37.75	55	2¾	10030	5.50	3¾	3¾	R.&L.	1 15/16	55.	12 5/8	Leiche
10060	40.00	60	2¾	10030	5.50	3¾	3¾	R.&L.	1 15/16	60.	13 5/8	Leiden
10128	88.00	128	2¾	10030	5.50	3¾	3¾	R.	1 15/16	128.	27 1/8	Leilao
1½" Pitch												
12019	$20.50	19	3¼	12036	$10.00	4½	4½	R.&L.	2 7/16	19.	6 5/8	Leimig
12019D	20.50	19	3¼	12036D	10.00	4½	4½	R.	2 7/16	9.5	6 5/8	Leitoa
12020	21.10	20	3¼	12036	10.00	4½	4½	R.&L.	2 7/16	20.	6 13/16	Leitus
12021	21.70	21	3¼	12036	10.00	4½	4½	R.&L.	2 7/16	21.	7 3/64	Lejano
12023	22.90	23	3¼	12036	10.00	4½	4½	R.&L.	2 7/16	23.	7 1/2	Leking
12031	27.70	31	3¼	12036	10.00	4½	4½	R.&L.	2 7/16	31.	9½	Lekvat
12035	30.10	35	3¼	12036	10.00	4½	4½	R.&L.	2 7/16	35.	10 25/64	Lekzak
12040	33.10	40	3¼	12036	10.00	4½	4½	R.&L.	2 7/16	40.	11 37/64	Lemas
12045	36.10	45	3¼	12036	10.00	4½	4½	R.&L.	2 7/16	45.	12 7/8	Lembo
12050	39.10	50	3¼	12036	10.00	4½	4½	R.&L.	2 7/16	50.	13 31/32	Lemmar
12055	42.10	55	3¼	12036	10.00	4½	4½	R.&L.	2 7/16	55.	15 5/32	Lemnos
12058	43.90	58	3¼	12036	10.00	4½	4½	R.&L.	2 7/16	58.	15 15/16	Lemon
12065	48.10	65	3¼	12036	10.00	4½	4½	R.&L.	2 7/16	65.	17 17/32	Lemur
12070	51.10	70	3¼	12036	10.00	4½	4½	R.&L.	2 7/16	70.	18 47/64	Lenco
12076	54.70	76	3¼	12036	10.00	4½	4½	R.&L.	2 7/16	76.	20 1/16	Lendel
12080	57.10	80	3¼	12036	10.00	4½	4½	R.&L.	2 7/16	80.	21 1/8	Length
12100	69.10	100	3¼	12036	10.00	4½	4½	R.&L.	2 7/16	100.	25 7/8	Lenify
1¾" Pitch												
14024	$24.00	24	3¾	14042	$12.00	5¼	5¼	R.	2 15/16	24.	9 1/16	Leriger
14028	26.65	28	3¾	14042	12.00	5¼	5¼	R.	2 15/16	28.	10 3/16	Lennep
14035	34.65	35	3¾	14042	12.00	5¼	5¼	R.&L.	2 15/16	35.	12 1/8	Lennox
14040	38.65	40	3¾	14042	12.00	5¼	5¼	R.&L.	2 15/16	40.	13½	Lentil
14047	45.35	47	3¾	14042	12.00	5¼	5¼	R.&L.	2 15/16	47.	15 7/16	Lenza
14050	48.00	50	3¾	14042	12.00	5¼	5¼	R.&L.	2 15/16	50.	16 5/16	Leozia
14056	53.35	56	3¾	14042	12.00	5¼	5¼	R.&L.	2 15/16	56.	17 15/16	Lepide
14063	60.00	63	3¾	14042	12.00	5¼	5¼	R.&L.	2 15/16	63.	19 29/32	Leplam
14065	61.35	65	3¾	14042	12.00	5¼	5¼	R.&L.	2 15/16	65.	20½	Lepra
14065D	61.35	65	3¾	14042D	12.00	5¼	5¼	R.	2 15/16	32.5	20½	Lerneo
14066	62.65	66	3¾	14042	12.00	5¼	5¼	R.&L.	2 15/16	66.	20¾	Lesao

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For Cut Gear Lists see pages 482 to 502.

Cast Tooth Worm Gears

1 3/4″ Pitch—Continued

CAST WHEELS				CAST WORMS						Relation		CODE WORD
Pattern Number	Price of Wheel	No. of Teeth	Extreme Face, Inches	Pattern Number	Price of Worm	Pitch Diam., Inches	Standard Length, Inches	R. or L. Hand	Largest Bore	Speed Ratio	Distance Between Centers	For both Wheel and Worm See Note
14066D	$62.65	66	3¾	14042D	$12.00	5¼	5¼	R.	$2\frac{15}{16}$	33.	$20\frac{3}{4}$	Lesbio
14075	73.35	75	3¾	14042	12.00	5¼	5¼	R.&L.	$2\frac{15}{16}$	75.	$23\frac{5}{16}$	Leshem
14080	80.00	80	3¾	14042	12.00	5¼	5¼	R.&L.	$2\frac{15}{16}$	80.	$24\frac{11}{64}$	Lesiner
14100	113.35	100	3¾	14042	12.00	5¼	5¼	R.&L.	$2\frac{15}{16}$	100.	$30\frac{13}{64}$	Lesivo
14120	146.65	120	3¾	14042	12.00	5¼	5¼	R.&L.	$2\frac{15}{16}$	120.	$35\frac{25}{32}$	Lesque
14136	173.35	136	3¾	14042	12.00	5¼	5¼	R.&L.	$2\frac{15}{16}$	136.	$40\frac{5}{16}$	Letchi
2″ Pitch												
16028	$36.00	28	4½	16048	$16.00	6	6	R.	$3\frac{3}{16}$	28.	$11\frac{5}{8}$	Lethal
16032	40.00	32	4½	16048	16.00	6	6	R.&L.	$3\frac{3}{16}$	32.	$12\frac{57}{64}$	Lethro
16036	45.35	36	4½	16048	16.00	6	6	R.&L.	$3\frac{3}{16}$	36.	$14\frac{11}{64}$	Letsel
16040	49.35	40	4½	16048	16.00	6	6	R.&L.	$3\frac{3}{16}$	40.	$15\frac{3}{8}$	Lettino
16049	60.00	49	4½	16048	16.00	6	6	R.&L.	$3\frac{3}{16}$	49.	$18\frac{49}{64}$	Lettre
16055	66.65	55	4½	16048	16.00	6	6	R.&L.	$3\frac{3}{16}$	55.	$20\frac{13}{64}$	Leucao
16056	68.00	56	4½	16048	16.00	6	6	R.&L.	$3\frac{3}{16}$	56.	$20\frac{33}{64}$	Linsoir
16060	73.35	60	4½	16048	16.00	6	6	R.&L.	$3\frac{3}{16}$	60.	$21\frac{51}{64}$	Leute
16065	80.00	65	4½	16048	16.00	6	6	R.&L.	$3\frac{3}{16}$	65.	$23\frac{25}{64}$	Leviez
16070	86.65	70	4½	16048	16.00	6	6	R.&L.	$3\frac{3}{16}$	70.	$24\frac{63}{64}$	Levita
16075	94.65	75	4½	16048	16.00	6	6	R.&L.	$3\frac{3}{16}$	75.	$26\frac{9}{16}$	Levyne
16075D	94.65	75	4½	16048D	16.00	6	6	R.	$3\frac{3}{16}$	37.5	$26\frac{9}{16}$	Lewat
16076	97.35	76	4½	16048	16.00	6	6	R.&L.	$3\frac{3}{16}$	76.	$26\frac{57}{64}$	Lexeos
16076D	97.35	76	4½	16048D	16.00	6	6	R.	$3\frac{3}{16}$	38.	$26\frac{57}{64}$	Lexis
16080	104.00	80	4½	16048	16.00	6	6	R.&L.	$3\frac{3}{16}$	80.	$28\frac{5}{32}$	Lezard
16090	120.00	90	4½	16048	16.00	6	6	R.&L.	$3\frac{3}{16}$	90.	$31\frac{11}{32}$	Lezem
16100	140.00	100	4½	16048	16.00	6	6	R.&L.	$3\frac{3}{16}$	100.	$34\frac{17}{32}$	Lianca
16114	166.65	114	4½	16048	16.00	6	6	R.&L.	$3\frac{3}{16}$	114.	$39\frac{29}{64}$	Liandi
2 1/4″ Pitch												
18026	$41.35	26	5	18054	$24.00	6¾	6½	R.	$3\frac{7}{16}$	26.	$12\frac{23}{64}$	Liaras
18030	46.65	30	5	18054	24.00	6¾	6½	R.	$3\frac{7}{16}$	30.	$13\frac{25}{32}$	Liaste
18039	60.00	39	5	18054	24.00	6¾	6½	R.	$3\frac{7}{16}$	39.	17	Liaton
18040	61.35	40	5	18054	24.00	6¾	6½	R.	$3\frac{7}{16}$	40.	$17\frac{3}{8}$	Libnah
18050	77.35	50	5	18054	24.00	6¾	6½	R.	$3\frac{7}{16}$	50.	$20\frac{15}{16}$	Libyan
18060	96.00	60	5	18054	24.00	6¾	6½	R.	$3\frac{7}{16}$	60.	$24\frac{39}{64}$	Liceto
2 3/4″ Pitch												
22035	$88.00	35	6¼	22059	$33.00	7⅜	7	R.	$3\frac{7}{16}$	35.	$18\frac{49}{32}$	Licht
22045	113.35	45	6¼	22059	33.00	7⅜	7	R.	$3\frac{7}{16}$	45.	$22\frac{31}{32}$	Lictam
22055	146.65	55	6¼	22059	33.00	7⅜	7	R.	$3\frac{7}{16}$	55.	$27\frac{5}{16}$	Liddel
22065	180.00	65	6¼	22259	33.00	7⅜	7	R.	$3\frac{7}{16}$	65.	$31\frac{47}{64}$	Lidimo
22075	213.35	75	6¼	22059	33.00	7⅜	7	R.	$3\frac{7}{16}$	75.	$36\frac{3}{32}$	Lidner
22085	246.65	85	6¼	22059	33.00	7⅜	7	R.	$3\frac{7}{16}$	85.	$40\frac{29}{64}$	Liefde
22091	266.65	91	6¼	22059	33.00	7⅜	7	R.	$3\frac{7}{16}$	91.	$43\frac{1}{16}$	Lienzo

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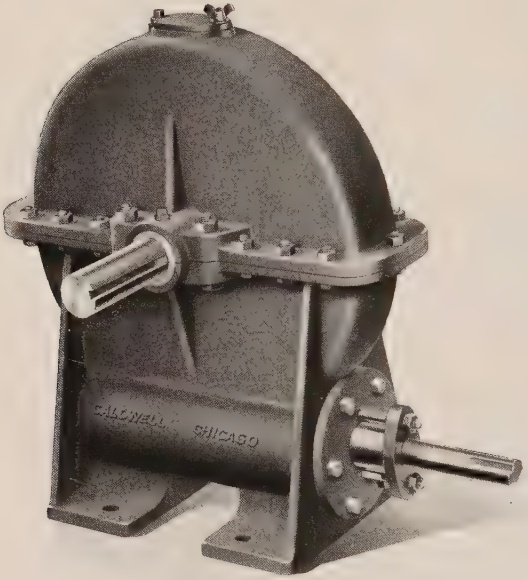
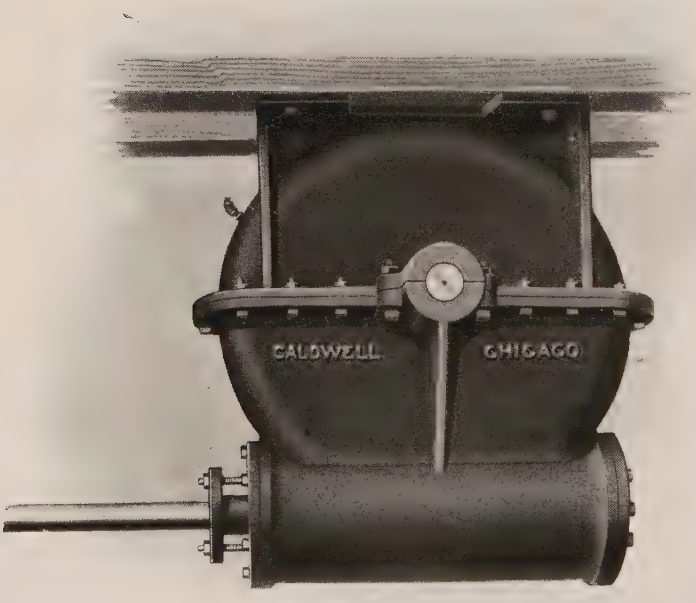
For Cut Gear Lists see pages 482 to 502.

Worm Gear Housings

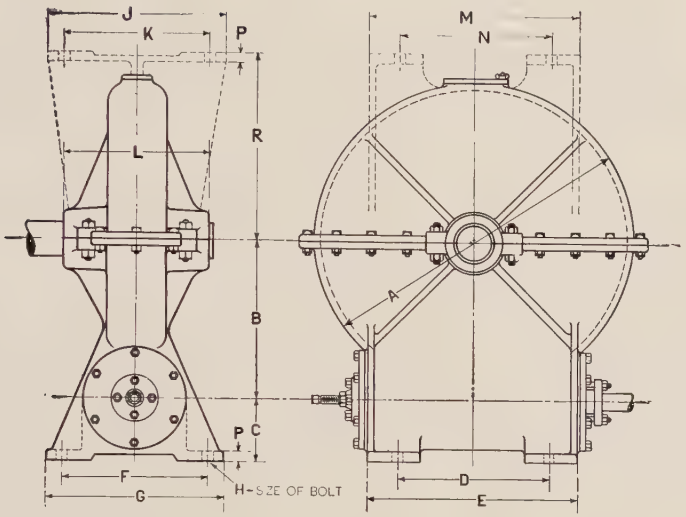


Floor Type Housing. Fig. 45456. (*Landkrank*)



Ceiling or Inverted Housing. Fig. 45457. (*Landkrebs*)

Worm Gear Housings



Our Standard Worm Gear Housings are regularly furnished with Cut Cast Iron Wheels and Cut Soft Steel Worms, with thrust bearings consisting of hardened steel and bronze discs. At additional charge we can furnish bronze wheels and hardened steel worms, with ball bearing thrusts, for heavy duty.

The housings are amply heavy and are well made, so as to be oil tight. Joints are planed, and fitted with gaskets. Worm shaft bearing is furnished with stuffing box. Shaft for the worm, projecting far enough for a flanged coupling, is included. No shaft for the gear is included at the prices named. Special shafts will be furnished at additional charge.

Number of Housing	A	Distance Between Centers B	DIMENSIONS, INCHES												
			C	D	E	F	G	H	J	K	L	M	N	P	R
M-67	18 3/8	.....	5 1/4	8 1/2	14 1/8	12	16	5/8	13	10	14 1/2	13 1/2	8 1/2	3/4	9 3/4
M-106	36		6	17	24	16 1/2	20	1 1/8	22	16	20 1/2	29	22	1	18 1/2
M-114	35 3/4	See	7	21 1/2	31 1/4	16 1/2	20 1/4	1	14 1/4	11	22 1/2	28	22	1	18
M-126	50 1/4	Table	5 5/8	23	32	16	20	1 1/4	20	15	19	38	28	1	26
M-130	22 3/4	on	5	14	19 3/4	12	15	7/8	14 1/2	11	14	22	17	3/4	12
M-132	28 1/2	Pages	6 3/4	18 1/4	23 1/2	12 1/2	15 1/2	7/8	16	12	15	26	20	1	18
M-135	36	482	7 1/16	17	24	16 1/2	20	1 1/8	20	16	16 1/2	29	22	1 1/16	18 1/2
M-149	12 3/4	to	3 3/4	4 3/4	11 1/2	6 1/2	8	5/8	13	10 1/2	9 3/4	13 3/4	8 3/4	1/2	7 1/2
M-151	20	484	4 5/8	8 3/4	13 3/4	10 1/2	13	5/8	13	10 1/2	10	13 3/4	8 3/4	3/4	10 1/2
M-152	13 3/4		4 5/8	8 3/4	13 3/4	10 1/2	13	5/8	13	10 1/2	10	13 3/4	8 3/4	3/4	7 1/2
B-1075	40		8 1/2	23	29 3/4	11	14	7/8	14 1/4	11	15	30	23	1 1/4	21 5/8
B-192	28 1/2		6 1/2	18 1/4	24	12 1/2	15 1/2	7/8	15 1/2	12 1/2	15	23 1/2	19 1/2	1	16 1/4

Cut Tooth Worm Gears with Housings

Speed Ratio	Price Housing Complete With Gears	CODE WORD Housing Complete With Gears	Distance Between Centers B, Inches	Hand	Cut Worm Wheel				Cut Worm		Number of Housing
					No. of Teeth	Pitch Diam., Inch.	Extr. Face, Inch.	Max." Bore,	Pitch Diam., Inch.	Max." Bore,	
4 Diametral Pitch											
42 to 1	$142.00	Laperusia	6.75	R.&L.	42	10½	2	2¼	3	1½	M-149
21 to 1	148.00	Lapful	6.75	R.&L.	42	10½	2	2¼	3	1½	M-149
47 to 1	153.00	Lapgeld	7.38	R.&L.	47	11¾	2	2	3	1½	M-152
23½ to 1	160.00	Laphanes	7.38	R.&L.	47	11¾	2	2	3	1½	M-152
74 to 1	225.00	Laphrie	10.75	R.&L.	74	18½	2	2	3	1½	M-151
37 to 1	231.00	Laphystion	10.75	R.&L.	74	18½	2	2	3	1½	M-151
3 1/2 Diametral Pitch											
35 to 1	$145.00	Laphystium	6.71	R.&L.	35	10	2¼	2¼	3.42	1¾	M-149
17½ to 1	150.00	Lapicaume	6.71	R.&L.	35	10	2¼	2¼	3.42	1¾	M-149
40 to 1	158.00	Lapicide	7.42	R.&L.	40	11 3-7	2¼	2	3.42	1¾	M-152
20 to 1	163.00	Lapicidis	7.42	R.&L.	40	11 3-7	2¼	2	3.42	1¾	M-152
63 to 1	232.00	Lapidabile	10.71	R.&L.	63	18	2¼	2	3.42	1¾	M-151
31½ to 1	237.00	Lapidacao	10.71	R.&L.	63	18	2¼	2	3.42	1¾	M-151
3 Diametral Pitch											
29 to 1	$149.00	Lapidadora	6.76	R.&L.	29	9 2-3	2½	2¼	3.85	2	M-149
14½ to 1	156.00	Lapidaire	6.76	R.&L.	29	9 2-3	2½	2¼	3.85	2	M-149
33 to 1	161.00	Lapidammo	7.43	R.&L.	33	11	2½	2	3.85	2	M-152
16½ to 1	168.00	Lapidandi	7.43	R.&L.	33	11	2½	2	3.85	2	M-152
52 to 1	235.00	Lapidandos	10.59	R.&L.	52	17 1-3	2½	2	3.85	2	M-151
26 to 1	242.00	Lapidandum	10.59	R.&L.	52	17 1-3	2½	2	3.85	2	M-151
55 to 1	249.00	Lapidarent	11.09	R.&L.	55	18 1-3	2½	3	3.85	2	M-130
27½ to 1	258.00	Lapidarian	11.09	R.&L.	55	18 1-3	2½	3	3.85	2	M-130
74 to 1	326.00	Lapidarono	14.26	R.&L.	74	24 2-3	2½	2½	3.85	2	M-132
37 to 1	335.00	Lapidassi	14.26	R.&L.	74	24 2-3	2½	2½	3.85	2	M-132
76 to 1	337.00	Lapidation	14.59	R.&L.	76	25 1-3	2½	2½	3.85	2	B-192
38 to 1	347.00	Lapidator	14.59	R.&L.	76	25 1-3	2½	2½	3.85	2	B-192
96 to 1	390.00	Lapidatrix	17.93	R.&L.	96	32	2½	4	3.85	2	M-135
48 to 1	405.00	Lapidatura	17.93	R.&L.	96	32	2½	4	3.85	2	M-135
102 to 1	403.00	Lapidavamo	18.93	R.&L.	102	34	2½	4	3.85	2	M-106
51 to 1	417.00	Lapidavate	18.93	R.&L.	102	34	2½	4	3.85	2	M-106
110 to 1	415.00	Lapideos	20.26	R.&L.	110	36 2-3	2½	3	3.85	2	B-1075
55 to 1	428.00	Lapiderai	20.26	R.&L.	110	36 2-3	2½	3	3.85	2	B-1075
136 to 1	498.00	Lapideront	24.59	R.&L.	136	45 1-3	2½	5	3.85	2	M-126
68 to 1	514.00	Lapidescet	24.59	R.&L.	136	45 1-3	2½	5	3.85	2	M-126
2 1/2 Diametral Pitch											
26 to 1	$175.00	Lapidescis	7.55	R.&L.	26	10 2-5	2¾	2	4.7	2½	M-152
13 to 1	184.00	Lapideur	7.55	R.&L.	26	10 2-5	2¾	2	4.7	2½	M-152
38 to 1	237.00	Lapidibus	9.95	R.&L.	38	15 1-5	2¾	2¼	4.7	2½	M-67
19 to 1	246.00	Lapidicole	9.95	R.&L.	38	15 1-5	2¾	2¼	4.7	2½	M-67
42 to 1	251.00	Lapidifico	10.75	R.&L.	42	16 4-5	2¾	2	4.7	2½	M-151
21 to 1	260.00	Lapidifie	10.75	R.&L.	42	16 4-5	2¾	2	4.7	2½	M-151

Above prices cover cut cast iron worm wheel and cut soft steel worm.
In ordering specify speed, horse power to be transmitted and character of load.

Cut Tooth Worm Gears with Housings

Speed Ratio	Price Housing Complete With Gears	CODE WORD Housing Complete With Gears	Distance Between Centers B, Inches	Hand	Cut Worm Wheel				Cut Worm		Number of Housing
					No. of Teeth	Pitch Diam., Inch.	Extr. Face, Inch.	Max. Bore,"	Pitch, Diam. Inch.	Max." Bore,"	
2 1/2 Diametral Pitch—Continued											
44 to 1	$268.00	Lapidify	11.15	R.&L.	44	17 3-5	2¾	3	4.7	2½	M-130
22 to 1	279.00	Lapidillo	11.15	R.&L.	44	17 3-5	2¾	3	4.7	2½	M-130
60 to 1	344.00	Lapidose	14.35	R.&L.	60	24	2¾	2½	4.7	2½	M-132
30 to 1	355.00	Lapidosos	14.35	R.&L.	60	24	2¾	2½	4.7	2½	M-132
61 to 1	352.00	Lapidosum	14.55	R.&L.	61	24 2-5	2¾	2½	4.7	2½	B-192
30½ to 1	364.00	Lapiedre	14.55	R.&L.	61	24 2-5	2¾	2½	4.7	2½	B-192
75 to 1	413.00	Lapiendos	17.35	R.&L.	75	30	2¾	4	4.7	2½	M-114
37½ to 1	432.00	Lapientem	17.35	R.&L.	75	30	2¾	4	4.7	2½	M-114
78 to 1	424.00	Lapillano	17.95	R.&L.	78	31 1-5	2¾	4	4.7	2½	M-135
39 to 1	442.00	Lapillasse	17.95	R.&L.	78	31 1-5	2¾	4	4.7	2½	M-135
84 to 1	437.00	Lapillava	19.15	R.&L.	84	33 3-5	2¾	4	4.7	2½	M-106
42 to 1	455.00	Lapilleux	19.15	R.&L.	84	33 3-5	2¾	4	4.7	2½	M-106
90 to 1	448.00	Lapilli	20.35	R.&L.	90	36	2¾	3	4.7	2½	B-1075
45 to 1	468.00	Lapillisco	20.35	R.&L.	90	36	2¾	3	4.7	2½	B-1075
111 to 1	537.00	Lapillorum	24.55	R.&L.	111	44 2-5	2¾	5	4.7	2½	M-126
55½ to 1	559.00	Lapillosis	24.55	R.&L.	111	44 2-5	2¾	5	4.7	2½	M-126
2 1/4 Diametral Pitch											
33 to 1	$245.00	Lapilloso	9.89	R.&L.	33	14 2-3	3¼	2¼	5.11	2¾	M-67
16½ to 1	252.00	Lapilluli	9.89	R.&L.	33	14 2-3	3¼	2¼	5.11	2¾	M-67
38 to 1	285.00	Lapillum	10.99	R.&L.	38	16 8-9	3¼	3	5.11	2¾	M-130
19 to 1	296.00	Lapinha	10.99	R.&L.	38	16 8-9	3¼	3	5.11	2¾	M-130
53 to 1	366.00	Lapisculi	14.33	R.&L.	53	23 5-9	3¼	2½	5.11	2¾	M-132
26½ to 1	377.00	Lapisculos	14.33	R.&L.	53	23 5-9	3¼	2½	5.11	2¾	M-132
54 to 1	372.00	Lapisculum	14.56	R.&L.	54	24	3¼	2½	5.11	2¾	B-192
27 to 1	384.00	Lapisdruck	14.56	R.&L.	54	24	3¼	2½	5.11	2¾	B-192
67 to 1	437.00	Lapitharum	17.44	R.&L.	67	29 7-9	3¼	4	5.11	2¾	M-114
33½ to 1	454.00	Lapithes	17.44	R.&L.	67	29 7-9	3¼	4	5.11	2¾	M-114
70 to 1	445.00	Lapithonio	18.11	R.&L.	70	31 1-9	3¼	4	5.11	2¾	M-135
35 to 1	462.00	Lapiverat	18.11	R.&L.	70	31 1-9	3¼	4	5.11	2¾	M-135
80 to 1	467.00	Lapivimus	20.33	R.&L.	80	35 5-9	3¼	3	5.11	2¾	B-1075
40 to 1	482.00	Lapivistis	20.33	R.&L.	80	35 5-9	3¼	3	5.11	2¾	B-1075
100 to 1	564.00	Lapizabas	24.78	R.&L.	100	44 4-9	3¼	5	5.11	2¾	M-126
50 to 1	582.00	Lapizar	24.78	R.&L.	100	44 4-9	3¼	5	5.11	2¾	M-126
2 Diametral Pitch											
17 to 1	$300.00	Lapizasen	11.00	R.	34	17	3¾	3	5	2¼	M-130
45 to 1	371.00	Lapizeiro	14.25	R.&L.	45	22½	3¾	2½	6	3	M-132
22½ to 1	380.00	Lapkaas	14.25	R.&L.	45	22½	3¾	2½	6	3	M-132
46 to 1	381.00	Lapkazen	14.50	R.&L.	46	23	3¾	2½	6	3	B-192
23 to 1	391.00	Laplace	14.50	R.&L.	46	23	3¾	2½	6	3	B-192

Above prices cover cut cast iron worm wheel and cut soft steel worm.
In ordering specify speed, horse power to be transmitted and character of load.

Cut Tooth Worm Gears with Housings

Speed Ratio	Price Housing Complete With Gears	CODE WORD Housing Complete With Gears	Distance Between Centers B, Inches	Hand	Cut Worm Wheel				Cut Worm		Number of Housing
					No. of Teeth	Pitch Diam., Inch.	Extr. Face, Inch.	Max. " Bore,	Pitch Diam., Inch.	Max. " Bore,	
2 Diametral Pitch—Continued											
58 to 1	$453.00	Laplander	17.50	R.&L.	58	29	3¾	4	6	3	M-114
29 to 1	466.00	Laplandish	17.50	R.&L.	58	29	3¾	4	6	3	M-114
60 to 1	460.00	Lapnaald	18.00	R.&L.	60	30	3¾	4	6	3	M-135
30 to 1	473.00	Lappaceous	18.00	R.&L.	60	30	3¾	4	6	3	M-135
64 to 1	472.00	Lappaginis	19.00	R.&L.	64	32	3¾	4	6	3	M-106
32 to 1	486.00	Lappago	19.00	R.&L.	64	32	3¾	4	6	3	M-106
69 to 1	483.00	Lappalie	20.25	R.&L.	69	34½	3¾	3	6	3	B-1075
34½ to 1	495.00	Lappam	20.25	R.&L.	69	34½	3¾	3	6	3	B-1075
44½ to 1	595.00	Lapparum	24.75	R.	89	44½	3¾	5	5	2¼	M-126
1 1/2" Circular Pitch											
31 to 1	$256.00	Lappenalge	9.92	R.	31	14.80	3¾	2¼	5.04	2	M-67
16 to 1	262.00	Lappendief	9.91	R.	32	15.28	3¾	2¼	4.54	2	M-67
1 3/4 Diametral Pitch											
49 to 1	$477.00	Lappenjagd	17.43	R.&L.	49	28	4¼	4	6.85	3¼	M-114
24½ to 1	500.00	Lappenkist	17.43	R.&L.	49	28	4¼	4	6.85	3¼	M-114
51 to 1	485.00	Lappenmaus	17.99	R.&L.	51	29 1-7	4¼	4	6.85	3¼	M-135
25½ to 1	510.00	Lappenwerk	17.99	R.&L.	51	29 1-7	4¼	4	6.85	3¼	M-135
55 to 1	506.00	Lapphorn	19.14	R.&L.	55	31 3-7	4¼	4	6.85	3¼	M-106
27½ to 1	531.00	Lappide	19.14	R.&L.	55	31 3-7	4¼	4	6.85	3¼	M-106
1 3/4" Circular Pitch											
28 to 1	$277.00	Lappior	9.995	R.	28	15.60	4¼	2¼	4.39	1⅜	M-67
13½ to 1	287.00	Lappmude	10.09	R.	27	15.04	4¼	2¼	5.14	2	M-67

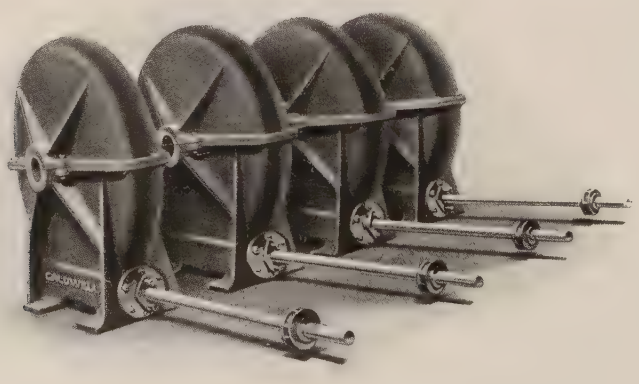


Fig. 45458. (*Landkrabbe*)

Cut Tooth Gears

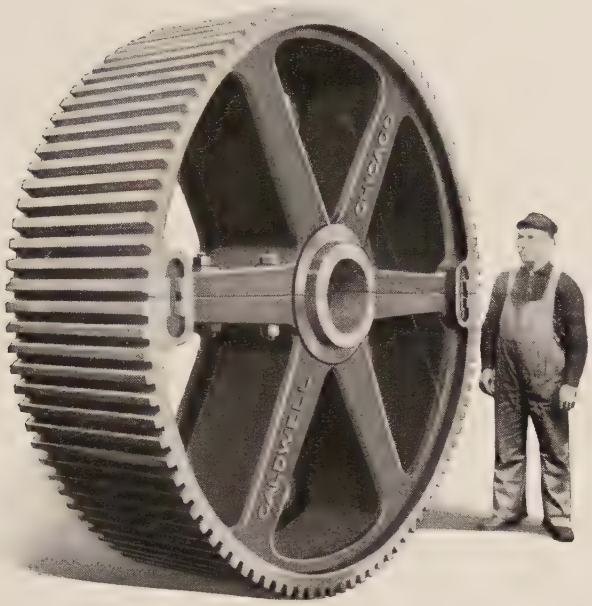


Fig. 45459. (*Landjuffer*)

Large Semi-Steel Split Spur Gear with Cut Teeth. Made Complete in Our Shops

Our equipment for making Cut Tooth Gears—Spur, Bevel and Miters—is very complete. We list on the following pages standard sizes in the smaller pitches, but larger diameters and heavier pitches than those listed can be furnished. Prices on large gears are only quoted upon application, as specifications for bores, hub lengths, etc., vary widely.

Cast Steel Gears and Forged Steel Pinions can be furnished, prices being quoted upon application.

For high speed drives and where noise is objectionable, Rawhide Pinions should be used. These have about the same strength as cast iron. Prices upon application.

We do not recommend cast iron or steel gears for greater rim speeds than 1,600 feet per minute on the pitch line, although under special conditions drives operating at a speed of 2,000 feet per minute are entirely satisfactory. Horse power tables are given on the next page.

Horse Power Transmitted by Cut Gearing (Lewis Formula)

$$\text{H. P.} = \frac{SPFYV}{33000}$$

S = safe working stress, P = circular pitch in inches,
F = face in inches, Y = a factor from table below,
V = velocity of pitch line in feet per minute.

SAFE WORKING STRESS, S—FOR DIFFERENT SPEEDS

Speed of Teeth in Feet per Minute	100 or less	200	300	600	900	1200	1800	2400
Cast Iron	8000	6000	4800	4000	3000	2400	2000	1700
Steel	20000	15000	12000	10000	7500	6000	5000	4300

	Factor for Strength "Y"				Factor for Strength "Y"		
No. of Teeth	Involute 20 Deg. Obliquity	Involute 15 Deg. and Cycloidal	Radial Flanks	No. of Teeth	Involute 20 Deg. Obliquity	Involute 15 Deg. and Cycloidal	Radial Flanks
12	0.078	0.067	0.052	27	0.111	0.100	0.064
13	.083	.070	.053	30	.114	.102	.065
14	.088	.072	.054	34	.118	.104	.066
15	.092	.075	.055	38	.122	.107	.067
16	.094	.077	.056	43	.126	.110	.068
17	.096	.080	.057	50	.130	.112	.069
18	.098	.083	.058	60	.134	.114	.070
19	.100	.087	.059	75	.138	.116	.071
20	.102	.090	.060	100	.142	.118	.072
21	.104	.092	.061	150	.146	.120	.073
23	.106	.094	.062	300	.150	.122	.074
25	.108	.097	.063	Rack	.154	.124	.075

Horse Power, Cast Iron 15° Involute Cut Gears

The following table is based on the Lewis Formula above, for Cast Iron Gears, and will be found convenient for rapid calculation. To use the table, multiply the horse power in table by width of face in inches, and divide by the *Diametral* pitch. For speeds less than 100 feet per minute, divide horse power for 100 feet per minute by 100 and multiply by actual feet per minute.

No. of Teeth	RIM SPEED, FEET PER MINUTE, AND HORSE POWER							
	100 Ft.	200 Ft.	300 Ft.	600 Ft.	900 Ft.	1200 Ft.	1800 Ft.	2400 Ft.
12	5	7.5	9.0	15.0	17.4	18.0	22.5	25.5
16	5.8	8.8	10.6	17.6	19.8	21.1	26.4	29.9
21	6.9	10.4	12.5	20.8	23.4	25.0	31.3	35.4
30	7.8	11.6	14.0	23.3	26.2	28.0	35.0	39.6
42	8.3	12.5	15.0	24.9	27.7	29.9	37.4	42.3
51	8.6	12.8	15.4	25.6	28.8	30.7	38.5	43.6
60	8.7	13.0	15.7	26.0	29.3	31.2	39.1	44.2
100	8.9	13.4	16.1	26.8	30.2	32.1	40.3	45.6
150	9.1	13.6	16.4	27.3	30.7	32.7	40.9	46.3
Rack	9.2	13.7	16.5	27.4	30.8	32.8	41.2	47.6

Cut Tooth Gears

Cut Tooth Gears are ordinarily made in Diametral Pitches, that is, a Two Diametral Pitch Gear will have two teeth for each inch in diameter; a Three Diametral Pitch Gear will have three teeth for each inch in diameter, etc. The following price lists are based on diametral pitch gears, but we can furnish Circular Pitch Gears if desired. For prices, use the following comparative price table.

Circular Pitch, Inches	Use Price List of Diametral Pitch	Circular Pitch, Inches	Use Price List of Diametral Pitch
3	1	1¼	2½
2½	1¼	1⅛	2¾
2	1½	1	3
1¾	1¾	⅞	3¼
1½	2	¾	4
1⅜	2¼	⅝	5

The Following Table Gives the Actual Circular Pitch Corresponding to the Various Diametral Pitches

Diametral Pitch	Circular Pitch, Inches	Diametral Pitch	Circular Pitch, Inches	Diametral Pitch	Circular Pitch, Inches
½	6.2832	4	.7854	20	.1571
¾	4.1888	5	.6283	22	.1428
1	3.1416	6	.5236	24	.1309
1¼	2.5133	7	.4488	26	.1208
1½	2.0944	8	.3927	28	.1122
1¾	1.7952	9	.3491	30	.1047
2	1.5708	10	.3142	32	.0982
2¼	1.3963	11	.2856	36	.0873
2½	1.2566	12	.2618	40	.0785
2¾	1.1424	14	.2244	48	.0654
3	1.0472	16	.1963		
3½	.8976	18	.1745		

Cut Tooth Cast Iron Spur Gears

1 Diametral Pitch Involute 9″ Face, Hubs Flush

Number of Teeth	Price With K. S. Or S. S.	CODE WORD	Pitch Diameter, Inches	Number of Teeth	Price With K. S. Or S. S.	CODE WORD	Pitch Diameter, Inches
12	$ 70.00	Linguatula	12	46	$268.00	Linifarius	46
13	77.50	Lingueirao	13	48	279.00	Liniferam	48
14	85.00	Linguelle	14	50	290.00	Liniferos	50
15	92.50	Lingueta	15	52	303.00	Linifia	52
16	100.00	Linguica	16	54	316.00	Linificus	54
17	106 00	Linguifere	17	56	329.00	Linifolie	56
18	112.00	Linguiform	18	58	342.00	Linigerous	58
19	118.00	Linguino	19	60	355.00	Linimento	60
20	124.00	Linguista	20	62	368.00	Liniremos	62
21	130.00	Linguistic	21	64	381.00	Linirent	64
22	136.00	Lingulaca	22	66	394.00	Linisque	66
23	141.50	Lingulacis	23	68	407.00	Linition	68
24	147.00	Lingulatos	24	70	420.00	Linkboy	70
25	152.50	Lingulatum	25	72	433.00	Linkerarm	72
26	158.00	Linguosa	26	74	446.00	Linkerbeen	74
27	163.50	Linguosum	27	76	459.00	Linkerhand	76
28	169.00	Linhagem	28	78	472.00	Linkerheup	78
29	174.50	Linhagista	29	80	485.00	Linkerkant	80
30	180.00	Linheado	30	82	498.00	Linkerknie	82
32	191.00	Liniaal	32	84	511.00	Linkeroog	84
34	202.00	Linicifio	34	86	524.00	Linkerpaal	86
36	213.00	Liniebamur	36	88	537.00	Linkerpink	88
38	224.00	Liniebar	38	90	550.00	Linkerpols	90
40	235.00	Linienmaas	40	92	563.00	Linkerpoots	92
42	246.00	Linieschip	42	94	576.00	Linkerseit	94
44	257.00	Linifaria	44	96	590.00	Linkervoet	96

1 1/4 Diametral Pitch Involute 7 1/2″ Face, Hubs Flush

12	$ 40.00	Linkerwang	9.6	56	$177.00	Linquet	44.8
13	43.50	Linkie	10.4	58	183.00	Linquis	46.4
14	47.00	Linkisch	11.2	60	189.00	Linsang	48
15	50.50	Linkischer	12	62	195.00	Linscotie	49.6
16	54.00	Linkman	12.8	64	201.00	Linsenbaum	51.2
17	57.50	Linksab	13.6	66	207.00	Linsenbein	52.8
18	61.00	Linksum	14.4	68	213.00	Linsenerz	54.4
19	64.50	Linneiste	15.2	70	219.00	Linsenfeld	56
20	68.00	Linnenkast	16	72	225.00	Linsenglas	57.6
21	71.50	Linnenmeid	16.8	74	231.00	Linstock	59.2
22	75.00	Linnenwaar	17.6	76	237.00	Linteaire	60.8
23	78.00	Linocier	18.4	78	243.00	Lintearíam	62.4
24	81.00	Linodella	19.2	80	249.00	Lintendoos	64
25	84.00	Linofillo	20	82	258.00	Linteolam	65.6
26	87.00	Linomple	20.8	84	267.00	Linteones	67.2
27	90.00	Linontuch	21.6	86	276.00	Linternazo	68.8
28	93.00	Linopode	22.4	88	285.00	Lintgras	70.4
29	96.00	Linostemi	23.2	90	294.00	Linthandel	72
30	99.00	Linostemos	24	92	303.00	Linthurie	73.6
32	105.00	Linostemum	25.6	94	312.00	Lintkraam	75.2
34	111.00	Linostigma	27.2	96	321.00	Lintmolen	76.8
36	117.00	Linostole	28.8	98	330.00	Lintrarios	78.4
38	123.00	Linotte	30.4	100	339.00	Lintrarium	80
40	129.00	Linous	32	102	348.00	Lintriculo	81.6
42	135.00	Linozostis	33.6	104	357.00	Lintris	83.2
44	141.00	Linquamas	35.2	106	366.00	Linstrik	84.8
46	147.00	Linquebant	36.8	108	375.00	Lintvaren	86.4
48	153.00	Linquenoos	38.4	110	384.00	Lintvisch	88
50	159.00	Linquendum	40	112	393.00	Lintvormig	89.6
52	165.00	Linquentem	41.6	116	411.00	Lintwerker	92.8
54	171.00	Linquerent	43.2	120	429.00	Lintwevers	96

For Horse Power Tables, see page 486. Larger gears of almost any diameter and face can be furnished. Prices on application. In telegraphing use code for bores, page 372.

Cut Tooth Cast Iron Spur Gears

1 1/2 Diametral Pitch Involute 6″ Face, Hubs Flush

Number of Teeth	Price With K. S. Or S. S.	CODE WORD	Pitch Diameter, Inches	Number of Teeth	Price With K. S. Or S. S.	CODE WORD	Pitch Diameter, Inches
12	$ 24.00	Lintwhite	8	72	$130.80	Liosperme	48
13	25.75	Lintwinkel	8 2/3	74	134.60	Liosteire	49 1/3
14	27.50	Lintworm	9 1/3	76	138.40	Liostraci	50 2/3
15	29.25	Lintwormen	10	78	142.20	Liostracos	52
16	31.00	Linuche	10 2/3	80	146.00	Liostraque	53 1/3
17	32.75	Linuelo	11 1/3	82	149.80	Liothasium	54 2/3
18	34.50	Linwood	12	84	153.60	Liotheide	56
19	36.25	Linxeramus	12 2/3	86	157.40	Liotrique	57 1/3
20	38.00	Linxerat	13 1/3	88	161.20	Lipalite	58 2/3
21	39.75	Linxeritis	14	90	165.00	Lipangue	60
22	41.50	Linxissent	14 2/3	92	168.80	Lipararum	61 1/3
23	43.25	Linyphide	15 1/3	94	172.60	Liparense	62 2/3
24	45.00	Linzenmeel	16	96	176.40	Liparensis	64
25	46.75	Linzenmoes	16 2/3	98	180.20	Lipareos	65 1/3
26	48.50	Linzensoep	17 1/3	100	184.00	Liparethre	66 2/3
28	52.00	Liobato	18 2/3	102	187.80	Lipariote	68
30	55.50	Liocome	20	104	191.60	Liparitano	69 1/3
32	59.00	Liocorno	21 1/3	106	195.40	Liparocele	70 2/3
34	62.50	Lioderme	22 2/3	108	199.20	Liparoide	72
36	66.00	Liodes	24	110	203.00	Lipbloem	73 1/3
38	69.50	Liogenyde	25 1/3	112	207.00	Lipbloemig	74 2/3
40	73.00	Lionceau	26 2/3	114	211.00	Lipemania	76
42	76.50	Lioncelle	28	116	215.00	Liperanto	77 1/3
44	80.00	Liondent	29 1/3	118	219.00	Lipjes	78 2/3
46	83.50	Lionesas	30 2/3	120	223.00	Lipklamp	80
48	87.00	Lionesses	32	122	227.00	Lipklier	81 1/3
50	90.50	Lionized	33 1/3	124	231.00	Liplap	82 2/3
52	94.00	Lionizing	34 2/3	126	235.00	Liplappen	84
54	97.50	Lionly	36	128	239.00	Liplet	85 1/3
56	101.00	Lionnesse	37 1/3	130	243.00	Lipletters	86 2/3
58	104.50	Lionnois	38 2/3	132	247.00	Lipocarphe	88
60	108.00	Lionship	40	134	251.00	Lipocele	89 1/3
62	111.80	Liopholide	41 1/3	136	255.00	Lipochete	90 2/3
64	115.60	Liophylle	42 2/3	138	259.00	Lipodemia	92
66	119.40	Lioptere	44	140	263.00	Lipoderme	93 1/3
68	123.20	Liorrinco	45 1/3	142	267.00	Lipodorus	94 2/3
70	127.00	Liosalfar	46 2/3	144	271.00	Lipogram	96

1 3/4 Diametral Pitch Involute 5″ Face, Hubs Flush

12	$ 18.00	Lipoma	6 6/7	38	$ 49.20	Lippulorum	21 5/7
13	19.20	Liponfalo	7 3/7	40	51.60	Lippulos	22 9/7
14	20.40	Lipothymic	8	42	54.00	Lippulum	24
15	21.60	Lippant	8 4/7	44	56.40	Lipsius	25 1/7
16	22.80	Lippchen	9 1/7	46	58.80	Lipspier	26 2/7
17	24.00	Lippenlaut	9 5/7	48	61.20	Liptang	27 3/7
18	25.20	Lippenrand	10 2/7	50	63.60	Liptangen	28 4/7
19	26.40	Lippenroth	10 6/7	52	66.00	Lipvormig	29 5/7
20	27.60	Lippenzalf	11 3/7	54	68.40	Lipzoden	30 6/7
21	28.80	Lippfisch	12	56	70.80	Liquable	32
22	30.00	Lippiebant	12 4/7	58	73.20	Liquamento	33 1/7
23	31.20	Lippientem	13 1/7	60	75.60	Liquamina	34 2/7
24	32.40	Lippig	13 5/7	62	78.00	Liquaminis	35 3/7
25	33.60	Lippitudo	14 2/7	64	80.40	Liquarios	36 4/7
26	34.80	Lippiverat	14 6/7	66	82.80	Liquater	37 5/7
28	37.20	Lippivimus	16	68	85.20	Liquativo	38 6/7
30	39.60	Lippivisti	17 1/7	70	87.60	Liquatorum	40
32	42.00	Lipporum	18 2/7	72	90.00	Liquatos	41 1/7
34	44.40	Lippos	19 3/7	74	92.40	Liquavimus	42 2/7
36	46.80	Lippuli	20 4/7	76	94.80	Liquavisti	43 3/7

For Horse Power Tables, see page 486. Larger gears of almost any diameter and face can be furnished. Prices on application. In telegraphing use code for bores, page 372.

Cut Tooth Cast Iron Spur Gears

1 3/4 Diametral Pitch Involute 5″ Face, Hubs Flush—Continued

Number of Teeth	Price With K. S. Or S. S.	CODE WORD	Pitch Diameter, Inches	Number of Teeth	Price With K. S. Or S. S.	CODE WORD	Pitch Diameter, Inches
78	$ 97.20	Liquistis	44 4/7	124	$155.60	Lischbloem	70 6/7
80	99.60	Liquor	45 5/7	126	158.20	Lischdodde	72
82	102.00	Liquored	46 6/7	128	161.40	Lischgras	73 1/7
84	104.40	Liquoretto	48	130	164.60	Lisciatura	74 2/7
86	106.80	Liquoreux	49 1/7	132	167.80	Liscissima	75 3/7
88	109.20	Liquoriste	50 2/7	134	171.00	Liscivammo	76 4/7
90	111.60	Lirarum	51 3/7	136	174.20	Liscivando	77 5/7
92	114.00	Liratim	52 4/7	138	177.40	Liscivassi	78 6/7
94	116.60	Liraverim	53 5/7	140	180.60	Liscivato	80
96	119.20	Lirella	54 6/7	142	183.80	Liscivava	81 1/7
98	121.80	Liriche	56	144	187.00	Liscrao	82 2/7
100	124.40	Lirismo	57 1/7	146	190.20	Liserage	83 3/7
102	127.00	Lironda	58 2/7	148	193.40	Liserolle	84 4/7
104	129.60	Lirondos	59 3/7	150	196.60	Liseron	85 5/7
106	132.20	Lisailleur	60 4/7	152	199.80	Lisiaramos	86 6/7
108	134.80	Lisamente	61 5/7	154	203.00	Lisiareis	88
110	137.40	Lisarvite	62 6/7	156	206.40	Lisibilite	89 1/7
112	140.00	Lisbonense	64	158	209.80	Lisiere	90 2/7
114	142.60	Lisbonesas	65 1/7	160	213.20	Lisinema	91 3/7
116	145.20	Lisbonina	66 2/7	162	216.60	Lisiodo	92 4/7
118	147.80	Lisbonnin	67 3/7	164	220.00	Liskenne	93 5/7
120	150.40	Liscezza	68 4/7	166	223.40	Liskoord	94 6/7
122	153.00	Lischblad	69 5/7	168	226.80	Lisonja	96

2 Diametral Pitch Involute 4 1/2″ Face, Hubs Flush

12	$14.50	Lisonjara	6	62	$59.50	Listiate	31
13	15.40	Lisonjeada	6 1/2	64	61.30	Listiger	32
14	16.30	Lisonjed	7	66	63.10	Listkopf	33
15	17.20	Lisons	7 1/2	68	64.90	Listless	34
16	18.10	Lispelende	8	70	66.70	Listoneria	35
17	19.00	Lispeln	8 1/2	72	68.50	Listrado	36
18	19.90	Lispelton	9	74	70.30	Lisura	37
19	20.80	Lispelwind	9 1/2	76	72.10	Lisvanthe	38
20	21.70	Lispingly	10	78	73.90	Litabile	39
21	22.60	Lisptong	10 1/2	80	75.70	Litabilis	40
22	23.50	Lisptongen	11	82	77.50	Litabrum	41
23	24.40	Lispund	11 1/2	84	79.30	Litantrace	42
24	25.30	Lissanthe	12	86	81.10	Litaremur	43
25	26 20	Lissochile	12 1/2	88	82.90	Litasiaco	44
26	27.10	Lissogene	13	90	84.70	Litationem	45
27	28.00	Lissoir	13 1/2	92	86.50	Litationis	46
28	28.90	Lissome	14	94	88.30	Litavicus	47
29	29.80	Lissonote	14 1/2	96	90.10	Liteosfora	48
30	30.70	Lissoptere	15	98	92.30	Literally	49
32	32.50	Lissorhine	16	100	94.50	Literator	50
34	34 30	Lissostilo	17	102	96.70	Literatura	51
36	36.10	Lissotarse	18	104	98.90	Literatuur	52
38	37.90	Listadillo	19	106	101.10	Liternorum	53
40	39.70	Listammo	20	108	103.30	Lithagogie	54
42	41.50	Listarella	21	110	105.50	Lithagogo	55
44	43.30	Listarono	22	112	107.70	Litharge	56
46	45.10	Listassimo	23	114	109.90	Lithesien	57
48	46.90	Listavate	24	116	112.10	Lithiase	58
50	48.70	Listello	25	118	114.30	Lithiasis	59
52	50.50	Listened	26	120	116.50	Lithique	60
54	52.30	Listenius	27	122	118.70	Lithium	61
56	54.10	Listeranno	28	124	120.90	Lithizonte	62
58	55.90	Listerebbe	29	126	123.10	Lithobate	63
60	57.70	Listeremo	30	128	125.30	Lithocarpe	64

For Horse Power Tables, see page 486. Larger gears of almost any diameter and face can be furnished. Prices on application. In telegraphing use code for bores, page 372.

Cut Tooth Cast Iron Spur Gears

2 Diametral Pitch Involute 4 1/2″ Face, Hubs Flush—Continued

Number of Teeth	Price With K. S. Or S. S.	CODE WORD	Pitch Diameter, Inches	Number of Teeth	Price With K. S. Or S. S.	CODE WORD	Pitch Diameter, Inches
130	$127.50	Lithocolle	65	162	$164.50	Lithomylie	81
132	129.70	Lithocyst	66	164	166.90	Lithope	82
134	131.90	Lithoderme	67	166	169.30	Lithophile	83
136	134.10	Lithodome	68	168	171.70	Lithophone	84
138	136.30	Lithodomus	69	170	174.10	Lithornis	85
140	138.50	Lithoecien	70	172	176.50	Lithoscope	86
142	140.70	Lithoglyph	71	174	178.90	Lithoside	87
144	142.90	Lithograph	72	176	181.30	Lithotint	88
146	145.30	Litholabe	73	178	183.70	Lithotomic	89
148	147.70	Litholatry	74	180	186.10	Lithotrite	90
150	150.10	Lithologie	75	182	188.50	Lithtype	91
152	152.50	Lithologo	76	184	190.90	Lithoxyle	92
154	154.90	Litholysie	77	186	193.30	Lithoxylon	93
156	157.30	Litholancy	78	188	195.70	Lithree	94
158	159.70	Lithomarge	79	190	198.10	Lithuanian	95
160	162.10	Lithometre	80	192	200.50	Litiasia	96

2 1/4 Diametral Pitch Involute 4″ Face, Hubs Flush

12	$12.00	Litibus	5 1/3	76	$56.80	Litospermo	33 7/9
13	12.70	Liticinis	5 7/9	78	58.20	Litossilo	34 2/3
14	13.40	Liticinum	6 2/9	80	59.60	Litojtreo	35 5/9
15	14.10	Litigaban	6 2/3	82	61.00	Litotirite	36 4/9
16	14.80	Litigant	7 1/9	84	62.40	Litotomia	37 1/3
17	15.50	Litigasse	7 5/9	86	63.80	Litotomo	38 2/9
18	16.20	Litigation	8	88	65.20	Litotritia	39 1/9
19	16.90	Litigatura	8 4/9	90	66.60	Littamum	40
20	17.60	Litigavano	8 8/9	92	68.00	Litteralis	40 8/9
21	18.30	Litigieux	9 1/3	94	69.40	Litterarum	41 7/9
22	19.00	Litigious	9 7/9	96	70.80	Litterat	42 2/3
23	19.70	Litigone	10 2/9	98	72.20	Litterioni	43 5/9
24	20.40	Litobiblia	10 2/3	100	73.60	Litterosas	44 4/9
25	21.10	Litocalamo	11 1/9	102	75.00	Litterosum	45 1/3
26	21.80	Litodendro	11 5/9	104	76.40	Litterula	46 2/9
27	22.50	Litodomo	12	106	77.80	Litthauer	47 1/9
28	23.20	Litofagas	12 4/9	108	79.20	Littleness	48
29	23.90	Litofago	12 8/9	110	80.90	Littlest	48 8/9
30	24.60	Litofalco	13 1/3	112	82.60	Littoral	49 7/9
32	26.00	Litofila	14 2/9	114	84.30	Littorano	50 2/3
34	27.40	Litofilos	15 1/9	116	86.00	Littori	51 5/9
36	28.80	Litofisi	16	118	87.70	Lituace	52 4/9
38	30.20	Litoglifo	16 8/9	120	89.40	Lituanas	53 3/9
40	31.60	Litoglosso	17 7/9	122	91.10	Lituano	54 2/9
42	33.00	Litografia	18 2/3	124	92.80	Litubium	55 1/9
44	34.40	Litografos	19 5/9	126	94.50	Lituiform	56
46	35.80	Litolabio	20 4/9	128	96.20	Lituolace	56 8/9
48	37.20	Litologia	21 1/3	130	97.90	Lituolida	57 7/9
50	38.60	Litomachus	22 2/9	132	99.60	Lituole	58 2/3
52	40.00	Litomanzia	23 1/9	134	101.30	Lituolite	59 5/9
54	41.40	Litomarga	24	136	103.00	Litumena	60 4/9
56	42.80	Litontribo	24 8/9	138	104.70	Liturabat	61 1/3
58	44.20	Litoralium	25 7/9	140	106.40	Liturabunt	62 2/9
60	45.60	Litorarius	26 2/3	142	108.10	Liturandos	63 1/9
62	47.00	Litorella	27 5/9	144	109.80	Liturarent	64
64	48.40	Litoreos	28 4/9	146	111.50	Lituratos	64 8/9
66	49.80	Litoreum	29 1/3	148	113.20	Lituravero	65 7/9
68	51.20	Litorne	30 2/9	150	114.90	Lituravis	66 2/3
70	52.60	Litorosam	31 1/9	152	116.60	Lituremus	67 5/9
72	54.00	Litorosis	32	154	118.30	Liturgical	68 4/9
74	55.40	Litoscopio	32 8/9	156	120.00	Liturgico	69 1/3

For Horse Power Tables, see page 486. Larger gears of almost any diameter and face can be furnished. Prices on application. In telegraphing use code for bores, page 372.

Cut Tooth Cast Iron Spur Gears

2 1/4 Diametral Pitch Involute 4″ Face, Hubs Flush—Continued

Number of Teeth	Price With K. S. Or S. S.	CODE WORD	Pitch Diameter, Inches	Number of Teeth	Price With K. S. Or S. S.	CODE WORD	Pitch Diameter, Inches
158	$121.70	Liturgie	70 2/9	188	$151.00	Livelily	83 5/9
160	123.40	Liturique	71 1/9	190	153.00	Livellammo	84 4/9
162	125.10	Liturgisch	72	192	155.00	Livellando	85 1/3
164	127.00	Liturgist	72 8/9	194	157.00	Livellarla	86 2/9
166	129.00	Liturgorum	73 7/9	196	159.00	Livellassi	87 1/9
168	131.00	Lituros	74 2/3	198	161.00	Livellato	88
170	133.00	Litversas	75 5/9	200	163.00	Livellerai	88 8/9
172	135.00	Liudewit	76 4/9	202	165.00	Livellolla	89 7/9
174	137.00	Liudolf	77 1/3	204	167.00	Livelong	90 2/3
176	139.00	Liutessa	78 2/9	206	169.00	Liventibus	91 5/9
178	141.00	Liutfrid	79 1/9	208	171.00	Livergrown	92 4/9
180	143.00	Liutgard	80	210	173.00	Liverimus	93 1/3
182	145.00	Livarot	80 8/9	212	175.00	Liverstone	94 2/9
184	147.00	Livebat	81 7/9	214	177.00	Liverwort	95 1/9
186	149.00	Liveche	82 2/3	216	179.00	Liveryman	96

2 1/2 Diametral Pitch Involute 3 1/2″ Face, Hubs Flush

12	$ 10.00	Livescent	4 4/5	78	$ 46.30	Llamabamos	31 1/5
13	10.55	Liviandad	5 1/5	80	47.40	Llamador	32
14	11.10	Livianorum	5 3/5	82	48.50	Llamadoras	32 4/5
15	11.65	Livianos	6	84	49.60	Llamamos	33 3/5
16	12.20	Liviarum	6 2/5	86	50.70	Llamante	34 2/5
17	12.75	Lividastro	6 4/5	88	51.80	Llamarada	35 1/5
18	13.30	Lividez	7 1/5	90	52.90	Llamareis	36
19	13.85	Lividezza	7 3/5	92	54.00	Llamaron	36 4/5
20	14.40	Livingness	8	94	55.10	Llamativa	37 3/5
21	14.95	Livonece	8 2/5	96	56.20	Llamativos	38 2/5
22	15.50	Livonio	8 4/5	98	57.30	Llambria	39 1/5
23	16.05	Livore	9 1/5	100	58.40	Llanera	40
24	16.60	Livoroso	9 3/5	102	59.50	Llanezas	40 4/5
25	17.15	Livourin	10	104	60.60	Llanto	41 3/5
26	17.70	Livrable	10 2/5	106	61.70	Llanuras	42 2/5
27	18.25	Livraison	10 4/5	108	62.80	Llares	43 1/5
28	18.80	Livrames	11 1/5	110	63.90	Llaveros	44
29	19.35	Livrancier	11 3/5	112	65.00	Llegaban	44 4/5
30	19.90	Livraria	12	114	66.40	Llegado	45 3/5
32	21.00	Livrasses	12 4/5	116	67.80	Llegaras	46 2/5
34	22.10	Livree	13 3/5	118	69.20	Llegaste	47 1/5
36	23.20	Livreront	14 2/5	120	70.60	Llenan	48
38	24.30	Livresinho	15 1/5	122	72.00	Llenando	48 4/5
40	25.40	Livrons	16	124	73.40	Llenaremos	49 3/5
42	26.50	Lixabundi	16 4/5	126	74.80	Llenaria	50 2/5
44	27.60	Lixabundos	17 3/5	128	76.20	Llevabas	51 1/5
46	28.70	Lixabundum	18 2/5	130	77.60	Llevador	52
48	29.80	Lixarum	19 1/5	132	79.00	Llevadoras	52 4/5
50	30.90	Lixiorum	20	134	80.40	Llevamos	53 3/5
52	32.00	Lixulae	20 4/5	136	81.80	Llevarais	54 2/5
54	33.10	Lixularum	21 3/5	138	83.20	Llevaran	55 1/5
56	34.20	Lizarde	22 2/5	140	84.60	Llevas	56
58	35.30	Lizarique	23 1/5	142	86.00	Llorabais	56 4/5
60	36.40	Lizzari	24	144	87.40	Llorabamos	57 3/5
62	37.50	Llagabas	24 4/5	146	88.80	Lloradas	58 2/5
64	38.60	Llagais	25 3/5	148	90.20	Llorado	59 1/5
66	39.70	Llagaramos	26 2/5	150	91.60	Lloradora	60
68	40.80	Llagaran	27 1/5	152	93.00	Lloramos	60 4/5
70	41.90	Llaguemos	28	154	94.40	Llorar	61 3/5
72	43.00	Llama	28 4/5	156	95.80	Llorarian	62 2/5
74	44.10	Llamaba	29 3/5	158	97.40	Lloraron	63 1/5
76	45.20	Llamabais	30 2/5	160	99.00	Llorasteis	64

For Horse Power Tables, see page 486. Larger gears of almost any diameter and face can be furnished. Prices on application. In telegraphing use code for bores, page 372.

Cut Tooth Cast Iron Spur Gears

2 1/2 Diametral Pitch Involute 3 1/2" Face, Hubs Flush—Continued

Number of Teeth	Price With K. S Or S. S.	CODE WORD	Pitch Diameter, Inches	Number of Teeth	Price With K. S. Or S. S.	CODE WORD	Pitch Diameter, Inches
162	$100.60	Lloreis	64 4/5	202	$132.60	Lluvias	80 4/5
164	102.20	Lloriquear	65 3/5	204	134.20	Lluviosas	81 3/5
166	103.80	Lloriqueo	66 2/5	206	135.80	Lluvioso	82 2/5
168	105.40	Lloro	67 1/5	208	137.40	Loadas	83 1/5
170	107.00	Llorosa	68	210	139.00	Loadmanage	84
172	108.60	Llorosos	68 4/5	212	140.60	Loador	84 4/5
174	110.20	Llovedizas	69 3/5	214	142.20	Loadstone	85 3/5
176	111.80	Lloveria	70 2/5	216	143.80	Loanable	86 2/5
178	113.40	Llovia	71 1/5	218	145.40	Loangeois	87 1/5
180	115.00	Lloviais	72	220	147.00	Loanmonger	88
182	116.60	Lloviamos	72 4/5	222	148.60	Loasaceae	88 4/5
184	118.20	Llovidas	73 3/5	224	150.20	Loathful	89 3/5
186	119.80	Llovido	74 2/5	226	151.80	Loathing	90 2/5
188	121.40	Lloviendo	75 1/5	228	153.40	Loathingly	91 1/5
190	123.00	Llovieron	76	230	155.00	Loathly	92
192	124.60	Llovieses	76 4/5	232	156.60	Loathness	92 4/5
194	126.20	Lloviznado	77 3/5	234	158.20	Loathsome	93 3/5
196	127.80	Lloviznar	78 2/5	236	159.80	Lobados	94 2/5
198	129.40	Llovizno	79 1/5	238	161.40	Lobagante	95 1/5
200	131.00	Llueve	80	240	163.00	Lobanillo	96

2 3/4 Diametral Pitch Involute 3 1/4" Face, Hubs Flush

12	$ 8.00	Lobarate	4 4/11	68	$ 36.00	Lobrede	24 8/11
13	8.50	Lobarique	4 8/11	70	37.00	Lobredner	25 5/11
14	9.00	Lobarral	5 1/11	72	38.00	Lobregas	26 2/11
15	9.50	Lobated	5 5/11	74	39.00	Lobrego	26 10/11
16	10.00	Lobato	5 9/11	76	40.00	Lobreguez	27 7/11
17	10.50	Lobberdet	6 2/11	78	41.00	Lobrigador	28 4/11
18	11.00	Lobberen	6 6/11	80	42.00	Lobsaenger	29 1/11
19	11.50	Lobberende	6 10/11	82	43.00	Lobscouse	29 9/11
20	12.00	Lobcock	7 3/11	84	44.00	Lobsided	30 6/11
21	12.50	Lobeiro	7 7/11	86	45.00	Lobspruch	31 3/11
22	13.00	Lobelia	8	88	46.00	Lobstimme	32
23	13.50	Loberas	8 4/11	90	47.00	Lobulaire	32 8/11
24	14.00	Lobesam	8 8/11	92	48.00	Lobulario	33 5/11
25	14.50	Lobetore	9 1/11	94	49.00	Lobulated	34 2/11
26	15.00	Lobezno	9 5/11	96	50.00	Lobulato	34 10/11
27	15.50	Lobgebet	9 9/11	98	51.00	Lobuleuse	35 7/11
28	16.00	Lobgedicht	10 2/11	100	52.00	Lobulosa	36 4/11
29	16.50	Lobgesang	10 6/11	102	53.00	Lobulosos	37 1/11
30	17.00	Lobifere	10 10/11	104	54.00	Lobvormig	37 9/11
32	18.00	Lobilabre	11 7/11	106	55.00	Lobworm	38 6/11
34	19.00	Lobinho	12 4/11	108	56.00	Lobwuerdig	39 3/11
36	20.00	Lobiole	13 1/11	110	57.00	Locabamus	40
38	21.00	Lobishomen	13 9/11	112	58.00	Locabit	40 8/11
40	22.00	Loblolly	14 4/11	114	59.00	Locabitis	41 5/11
42	23.00	Lobodere	15 3/11	116	60.00	Localibus	42 2/11
44	24.00	Lobodonte	16	118	61.00	Localidad	42 10/11
46	25.00	Loboite	16 8/11	120	62.00	Localisait	43 7/11
48	26.00	Loboor	17 5/11	122	63.00	Localisme	44 4/11
50	27.00	Loboorig	18 2/11	124	64.00	Locality	45 1/11
52	28.00	Lobopfer	18 10/11	126	65.00	Localium	45 9/11
54	29.00	Lobopode	19 7/11	128	66.00	Localizado	46 6/11
56	30.00	Lobops	20 4/11	130	67.00	Localize	47 3/11
58	31.00	Lobosos	21 1/11	132	68.00	Localizing	48
60	32.00	Lobostome	21 9/11	134	69.40	Localmente	48 8/11
62	33.00	Lobpreisen	22 6/11	136	70.80	Locamus	49 5/11
64	34.00	Lobpsalm	23 3/11	138	72.20	Locanda	50 2/11
66	35.00	Lobpsalmen	24	140	73.60	Locandorum	50 10/11

For Horse Power Tables, see page 486. Larger gears of almost any diameter and face can be furnished. Prices on application. In telegraphing use code for bores, page 372.

Cut Tooth Cast Iron Spur Gears

2 3/4 Diametral Pitch Involute 3 1/4″ Face, Hubs Flush—Continued

Number of Teeth	Price With K. S. Or S. S.	CODE WORD	Pitch Diameter, Inches	Number of Teeth	Price With K. S. Or S. S.	CODE WORD	Pitch Diameter, Inches
142	$75.00	Locapala	51 7/11	204	$118.40	Lochometre	74 2/11
144	76.40	Locarello	52 4/11	206	119.80	Lochos	74 10/11
146	77.80	Locassi	53 1/11	208	121.20	Lochring	75 7/11
148	79.20	Located	53 9/11	210	122.60	Lochringes	76 4/11
150	80.60	Locatelli	54 6/11	212	124.00	Lochsaege	77 1/11
152	82.00	Locaticiam	55 3/11	214	125.40	Lochsteine	77 9/11
154	83.40	Locatif	56	216	126.80	Locitamus	78 6/11
156	84.80	Location	56 8/11	218	128.20	Locitandi	79 3/11
158	86.20	Locationem	57 5/11	220	129.60	Locitandos	80
160	87.60	Locatizio	58 2/11	222	131.00	Locitandum	80 8/11
162	89.00	Locatore	58 10/11	224	132.40	Locitant	81 5/11
164	90.40	Locatorum	59 7/11	226	133.80	Locitarent	82 2/11
166	91.80	Locatura	60 4/11	228	135.20	Locitatura	82 10/11
168	93.20	Locaturos	61 1/11	230	136.60	Locitavera	83 7/11
170	94.60	Locava	61 9/11	232	138.00	Locitavis	84 4/11
172	96.00	Locavano	62 6/11	234	139.40	Locitetis	85 1/11
174	97.40	Locaverat	63 3/11	236	140.80	Lockage	85 9/11
176	98.80	Locaverunt	64	238	142.20	Lockenbau	86 6/11
178	100.20	Locavisses	64 8/11	240	143.60	Lockenhaar	87 3/11
180	101.60	Loccenius	65 5/11	242	145.00	Lockenkopf	88
182	103.00	Locelli	66 2/11	244	146.40	Lockenring	88 8/11
184	104.40	Locellorum	66 10/11	246	147.80	Lockenwald	89 5/11
186	105.80	Locellos	67 7/11	248	149.20	Lockenwerk	90 2/11
188	107.20	Locellum	68 4/11	250	150.60	Lockenwurf	90 10/11
190	108.60	Lochbeutel	69 1/11	252	152.00	Lockerheit	91 7/11
192	110.00	Locheiche	69 9/11	254	153.40	Lockfast	92 4/11
194	111.40	Locheisen	70 6/11	256	154.80	Lockgesang	93 1/11
196	112.80	Lochemie	71 3/11	258	156.20	Lockhammel	93 9/11
198	114.20	Lochereste	72	260	157.60	Lockicht	94 6/11
200	115.60	Lochial	72 8/11	262	159.00	Lockist	95 3/11
202	117.00	Lochiamo	73 5/11	264	160.40	Locklerche	96

3 Diametral Pitch Involute 3″ Face, Hubs Flush

12	$ 7.00	Lockless	4	46	$22.30	Locularium	15 1/3
13	7.45	Lockman	4 1/3	48	23.20	Loculo	16
14	7.90	Lockmeise	4 2/3	50	24.10	Loculosas	16 2/3
15	8.35	Lockmittel	5	52	25.00	Loculose	17 1/3
16	8.80	Lockpfeife	5 1/3	54	25.90	Loculosum	18
17	9.25	Lockrand	5 2/3	56	26.80	Locuples	18 2/3
18	9.70	Lockruf	6	58	27.70	Locupletar	19 1/3
19	10.15	Lockrufes	6 1/3	60	28.60	Locupleto	20
20	10.60	Locksmith	6 2/3	62	29.50	Locusta	20 2/3
21	11.05	Lockspiel	7	64	30.40	Locustarum	21 1/3
22	11.50	Lockstimme	7 1/3	66	31.30	Locusting	22
23	11.95	Lockung	7 2/3	68	32.20	Locustis	22 2/3
24	12.40	Lockungen	8	70	33.10	Locutilis	23 1/3
25	12.85	Lockvogel	8 1/3	72	34.00	Locutilium	24
26	13.30	Lockwort	8 2/3	74	34.90	Locutionis	24 2/3
27	13.75	Locomotion	9	76	35.80	Locutius	25 1/3
28	14.20	Locomotive	9 1/3	78	36.70	Locutor	26
29	14.65	Locomotor	9 2/3	80	37.60	Locutorio	26 2/3
30	15.10	Locomotriz	10	82	38.50	Locutulei	27 1/3
32	16.00	Locozus	10 2/3	84	39.40	Locutuleos	28
34	16.90	Locrense	11 1/3	86	40.30	Lodabile	28 2/3
36	17.80	Locrorum	12	88	41.20	Lodabilita	29 1/3
38	18.70	Locuaz	12 2/3	90	42.10	Lodacal	30
40	19.60	Locuelas	13 1/3	92	43.00	Lodammo	30 2/3
42	20.50	Loculados	14	94	43.90	Lodando	31 1/3
44	21.40	Loculament	14 2/3	96	44.80	Lodarono	32

For Horse Power Tables, see page 486. Larger gears of almost any diameter and face can be furnished. Prices on application. In telegraphing use code for bores, page 372.

Cut Tooth Cast Iron Spur Gears

3 Diametral Pitch Involute 3″ Face, Hubs Flush—Continued

Number of Teeth	Price With K. S. Or S. S.	CODE WORD	Pitch Diameter, Inches	Number of Teeth	Price With K. S. Or S. S.	CODE WORD	Pitch Diameter, Inches
98	$45.70	Lodassimo	32 2/3	192	$95.20	Loefgierig	64
100	46.60	Lodativo	33 1/3	194	96.40	Loefhals	64 2/3
102	47.50	Lodatori	34	196	97.60	Loefhalzen	65 1/3
104	48.40	Lodavate	34 2/3	198	98.80	Loefhouder	66
106	49.30	Lodazales	35 1/3	200	100.00	Loefhout	66 2/3
108	50.20	Lodderig	36	202	101.20	Loefhouten	67 1/3
110	51.10	Lodderigger	36 2/3	204	102.40	Loeflingie	68
112	52.00	Lodderoog	37 1/3	206	103.60	Loefschoot	68 2/3
114	52.90	Lodderzoet	38	208	104.80	Loefspant	69 1/3
116	53.80	Loddigesia	38 2/3	210	106.00	Loefwaarts	70
118	54.70	Lodenrock	39 1/3	212	107.20	Loefwal	70 2/3
120	55.60	Loderai	40	214	108.40	Loehne	71 1/3
122	56.50	Loderanno	40 2/3	216	109.60	Loehnung	72
124	57.40	Loderasche	41 1/3	218	110.80	Loehnungen	72 2/3
126	58.30	Loderebbe	42	220	112.00	Loeiende	73 1/3
128	59.20	Loderemo	42 2/3	222	113.20	Loemipodes	74
130	60.10	Lodesman	43 1/3	224	114.40	Loemique	74 2/3
132	61.00	Lodevoli	44	226	115.60	Loensche	75 1/3
134	61.90	Lodgeable	44 2/3	228	116.80	Loerhoek	76
136	62.80	Lodged	45 1/3	230	118.00	Loerhoeken	76 2/3
138	63.70	Lodging	46	232	119.20	Loerplaats	77 1/3
140	64.60	Lodgment	46 2/3	234	120.40	Loervogels	78
142	65.50	Lodiate	47 1/3	236	121.60	Loesbar	78 2/3
144	66.40	Lodicem	48	238	122.80	Loesbarer	79 1/3
146	67.60	Lodicis	48 2/3	240	124.00	Loeschbar	80
148	68.80	Lodicule	49 1/3	242	125.20	Loeschest	80 2/3
150	70.00	Lodiculis	50	244	126.40	Loeschfass	81 1/3
152	71.20	Lodjer	50 2/3	246	127.60	Loeschgeld	82
154	72.40	Lodolette	51 1/3	248	128.80	Loeschhorn	82 2/3
156	73.60	Lodomerius	52	250	130.00	Loeschkalk	83 1/3
158	74.80	Lodosas	52 2/3	252	131.20	Loeschnapf	84
160	76.00	Lodoso	53 1/3	254	132.40	Loeschung	84 2/3
162	77.20	Lodretto	54	256	133.60	Loesegeld	85 1/3
164	78.40	Loeblich	54 2/3	258	134.80	Loesekeil	86
166	79.60	Loebnis	55 1/3	260	136.00	Loesest	86 2/3
168	80.80	Loecherig	56	262	137.20	Loesewerth	87 1/3
170	82.00	Loecherlos	56 2/3	264	138.40	Loeslich	88
172	83.20	Loechlein	57 1/3	266	139.60	Loesungen	88 2/3
174	84.40	Loedaria	58	268	140.80	Loethig	89 1/3
176	85.60	Loefbalk	58 2/3	270	142.00	Loethkorn	90
178	86.80	Loefbalken	59 1/3	272	143.20	Loethlamp	90 2/3
180	88.00	Loefboom	60	274	144.40	Loethnaht	91 1/3
182	89.20	Loefboomen	60 2/3	276	145.60	Loethofen	92
184	90.40	Loefden	61 1/3	278	146.80	Loethrohr	92 2/3
186	91.60	Loeffel	62	280	148.00	Loethsalz	93 1/3
188	92.80	Loeffelohr	62 2/3	284	149.20	Loethstein	94 2/3
190	94.00	Loefflein	63 1/3	288	150.40	Loethung	96

3 1/2 Diametral Pitch Involute 2 3/4″ Face, Hubs Flush

12	$6.00	Loethzange	3 3/7	22	$ 9.50	Lofklank	6 2/7
13	6.35	Loethzinn	3 5/7	23	9.85	Loflied	6 4/7
14	6.70	Lofanto	4	24	10.20	Lofoffers	6 6/7
15	7.05	Lofbazuin	4 2/7	25	10.55	Lofogona	7 1/7
16	7.40	Lofdicht	4 4/7	26	10.90	Loforinco	7 3/7
17	7.75	Lofgalm	4 6/7	27	11.25	Lofredenen	7 5/7
18	8.10	Lofgebed	5 1/7	28	11.60	Lofschrift	8
19	8.45	Lofiola	5 3/7	29	11.95	Lofspraak	8 2/7
20	8.80	Lofiolepa	5 5/7	30	12.30	Loftily	8 4/7
21	9.15	Lofira	6	31	12.65	Loftiness	8 6/7

For Horse Power Tables, see page 486. Larger gears of almost any diameter and face can be furnished. Prices on application. In telegraphing use code for bores, page 372.

Cut Tooth Cast Iron Spur Gears

3 1/2 Diametral Pitch Involute 2 3/4" Face, Hubs Flush—Continued

Number of Teeth	Price With K. S. Or S. S.	CODE WORD	Pitch Diameter, Inches	Number of Teeth	Price With K. S. Or S. S.	CODE WORD	Pitch Diameter, Inches
32	$ 13.00	Loftuiting	9 1/7	134	$ 48.70	Logistical	38 2/7
33	13.35	Loftus	9 3/7	136	49.40	Logisticos	38 6/7
34	13.70	Lofwaardig	9 5/7	138	50.10	Logisticum	39 3/7
35	14.05	Lofwerk	10	140	50.80	Logliella	40
36	14.40	Lofzang	10 2/7	142	51.50	Loglio	40 4/7
37	14.75	Lofzangen	10 4/7	144	52.20	Logogracy	41 1/7
38	15.10	Lofzangers	10 6/7	146	52.90	Logographo	41 5/7
39	15.45	Logaone	11 1/7	148	53.60	Logogram	42 2/7
40	15.80	Logarithm	11 3/7	150	54.30	Logography	42 6/7
42	16.50	Logaritmo	12	152	55.00	Logogriph	43 3/7
44	17.20	Logarium	12 4/7	154	55.70	Logomachy	44
45	17.55	Logbasis	12 6/7	156	56.40	Logomanzia	44 4/7
46	17.90	Logboek	13 1/7	158	57.10	Logomaquia	45 1/7
48	18.60	Logboeken	13 5/7	160	57.80	Logometer	45 5/7
50	19.30	Logbuch	14 2/7	162	58.50	Logophanie	46 2/7
52	20.00	Logeais	14 6/7	164	59.20	Logophile	46 6/7
54	20.70	Logement	15 3/7	166	59.90	Logorammo	47 3/7
55	21.05	Logementen	15 5/7	168	60.60	Logorando	48
56	21.40	Logenhaus	16	170	61.60	Logorarono	48 4/7
58	22.10	Logenliste	16 4/7	172	62.60	Logorassi	49 1/7
60	22.80	Logenplatz	17 1/7	174	63.60	Logorata	49 5/7
62	23.50	Logenrang	17 5/7	176	64.60	Logoratore	50 2/7
64	24.20	Logensitz	18 2/7	178	65.60	Logoravamo	50 6/7
65	24.55	Logentag	18 4/7	180	66.60	Logoravate	51 3/7
66	24.90	Logenzins	18 6/7	182	67.60	Logorerai	52
68	25.60	Logeraient	19 3/7	184	68.60	Logorero	52 4/7
70	26.30	Logeriez	20	186	69.60	Logoteente	53 1/7
72	27.00	Logeront	20 4/7	188	70.60	Logotrope	53 5/7
74	27.70	Logeum	21 1/7	190	71.60	Lograba	54 2/7
75	28.05	Loggerhead	21 3/7	192	72.60	Lograbamos	54 6/7
76	28.40	Loggermast	21 5/7	194	73.60	Logracao	55 3/7
78	29.10	Loggers	22 2/7	196	74.60	Lograderia	56
80	29.80	Loggerzeil	22 6/7	198	75.60	Lograderia	56 4/7
82	30.50	Loggetta	23 3/7	200	76.60	Logramos	57 1/7
84	31.20	Loggolas	24	202	77.60	Lograr	57 5/7
85	31.55	Loggiato	24 2/7	204	78.60	Lograrian	58 2/7
86	31.90	Logglazen	24 4/7	206	79.60	Lograron	58 6/7
88	32.60	Loggleine	25 1/7	208	80.60	Lograrivo	59 3/7
90	33.30	Loggrolle	25 5/7	210	81.60	Logreabas	60
92	34.00	Logheid	26 2/7	212	82.60	Logreais	60 4/7
94	34.70	Logicality	26 6/7	214	83.60	Logrearan	61 1/7
96	35.40	Logicammo	27 3/7	216	84.60	Logreiro	61 5/7
98	36.10	Logicando	28	218	85.60	Logrollen	62 2/7
100	36.80	Logicarono	28 4/7	220	86.60	Logronesa	62 6/7
102	37.50	Logicassi	29 1/7	222	87.60	Logtafels	63 3/7
104	38.20	Logicastro	29 5/7	224	88.60	Logthing	64
106	38.90	Logicavamo	30 2/7	226	89.60	Loguccio	64 4/7
108	39.60	Logicavate	30 6/7	228	90.60	Loguer	65 1/7
110	40.30	Logicherai	31 3/7	230	91.60	Logwood	65 5/7
112	41.00	Logichero	32	232	92.60	Lohbaeder	66 2/7
114	41.70	Logichiamo	32 4/7	234	93.60	Lohballen	66 6/7
116	42.40	Logicise	33 1/7	236	94.60	Lohbeet	67 3/7
118	43.10	Logicising	33 5/7	238	95.60	Lohbeeten	68
120	43.80	Logico	34 2/7	240	96.60	Lohbeize	68 4/7
122	44.50	Logicorum	34 6/7	242	97.60	Lohblume	69 1/7
124	45.20	Logicuzzo	35 3/7	244	98.60	Lohbruehe	69 5/7
126	45.90	Logieren	36	246	99.60	Loheac	70 2/7
128	46.60	Logique	36 4/7	248	100.60	Loherde	70 6/7
130	47.30	Logismo	37 1/7	250	101.60	Lohfarbe	71 3/7
132	48.00	Logistic	37 5/7	252	102.60	Lonfarbig	72

For Horse Power Tables, see page 486. Larger gears of almost any diameter and face can be furnished. Prices on application. In telegraphing use code for bores, page 372.

Cut Tooth Cast Iron Spur Gears

4 Diametral Pitch Involute 2 1/4" Face, Hubs Flush

Number of Teeth	Price With K. S. Or S. S.	CODE WORD	Pitch Diameter, Inches	Number of Teeth	Price With K. S. Or S. S.	CODE WORD	Pitch Diameter, Inches
12	$ 5.00	Lohfeuer	3	114	$ 30.20	Loktrek	28½
13	5.20	Lohgar	3¼	116	30.80	Lokvink	29
14	5.40	Lohgerber	3½	118	31.40	Lokwoord	29½
15	5.60	Lohgrube	3¾	120	32.00	Loliace	30
16	5.80	Lohhecke	4	122	32.60	Loliarus	30½
17	6.00	Lohkaese	4¼	124	33.20	Loligoide	31
18	6.20	Lohkuchen	4½	126	33.80	Loligopsis	31½
19	6.40	Lohmuehle	4¾	128	34.40	Lollard	32
20	6.60	Lohnarbeit	5	130	35.00	Lollardism	32½
21	6.85	Lohnbar	5¼	132	35.70	Lollepot	33
22	7.10	Lohnbuches	5½	134	36.40	Lollharden	33½
23	7.35	Lohndiener	5¾	136	37.10	Lollia	34
24	7.60	Lohnen	6	138	37.80	Lollianam	34½
25	7.85	Lohnender	6¼	140	38.50	Lolliani	35
26	8.10	Lohnfure	6½	142	39.20	Lollianos	35½
27	8.35	Lohnhauer	6¾	144	39.90	Lolligine	36
28	8.60	Lohnknecht	7	146	40.60	Lollingly	36½
29	8.85	Lohnliste	7¼	148	41.30	Lolliorum	37
30	9.10	Lohnsaetze	7½	150	42.00	Lollipop	37½
32	9.60	Lohnsoldat	8	152	42.70	Lollium	38
34	10.10	Lohntag	8½	154	43.40	Lollpfeife	38½
36	10.60	Lohntages	9	156	44.10	Lolotiere	39
38	11.10	Lohnwagen	9½	158	44.80	Lomanora	39½
40	11.60	Lohoch	10	160	45.50	Lomaria	40
42	12.10	Lohrinde	10½	162	46.20	Lomatie	40½
44	12.60	Lohsaetzen	11	164	46.90	Lombagie	41
46	13.10	Lohsatz	11½	166	47.60	Lombaire	41½
48	13.60	Lohtroegen	12	168	48.30	Lombardada	42
50	14.10	Lohtrog	12½	170	49.00	Lombardero	42½
52	14.60	Lohzange	13	172	49.70	Lombata	43
54	15.10	Loietta	13½	174	50.40	Lombatello	43½
56	15.60	Loimic	14	176	51.10	Lombatino	44
58	16.10	Loimographo	14½	178	51.80	Lomboyer	44½
60	16.60	Loimologo	15	180	52.50	Lombrical	45
62	17.10	Loimopira	15½	182	53.20	Lonbricone	45½
64	17.60	Loirot	16	184	53.90	Lombriga	46
66	18.10	Loisible	16½	186	54.60	Lombudo	46½
68	18.60	Loiter	17	188	55.30	Lomechuse	47
70	19.10	Loitered	17½	190	56.00	Lomentorum	47½
72	19.60	Loitering	18	192	56.90	Lomentum	48
74	20.10	Lokaas	18½	194	57.80	Lomia	48½
76	20.60	Lokaasden	19	196	58.70	Lomillo	49
78	21.10	Lokalblaat	19½	198	59.60	Lominado	49½
80	21.60	Lokales	20	200	60.50	Lommeren	50
82	22.10	Lokalfluth	20½	202	61.40	Lommerende	50½
84	22.60	Lokalitaet	21	204	62.30	Lomonite	51
86	23.10	Lokalposse	21½	206	63.20	Lompenbak	51½
88	23.60	Lokalpost	22	208	64.10	Lompenblok	52
90	24.10	Lokaltun	22½	210	65.00	Lompenkist	52½
92	24.60	Lokaltones	23	212	65.90	Lompenmand	53
94	25.10	Lokalzug	23½	214	66.80	Lompenmes	53½
96	25.60	Lokalzuges	24	216	67.70	Lompennet	54
98	26.10	Lokazende	24½	218	68.60	Lompenstof	54½
100	26.60	Lokbrood	25	220	69.50	Lomperd	55
102	27.10	Loketkast	25½	222	70.40	Lompheid	55½
104	27.60	Lokgeld	26	224	71.30	Lompo	56
106	28.10	Lokgelden	26½	228	73.10	Lompsuiker	57
108	28.60	Lokgiften	27	232	74.90	Lomtinque	58
110	29.10	Lokken	27½	236	76.70	Lonchee	59
112	29.60	Lokmees	28	240	78.50	Loncheres	60

For Horse Power Tables, see page 486. Larger gears of almost any diameter and face can be furnished. Prices on application. In telegraphing use code for bores, page 372.

Cut Tooth Cast Iron Spur Gears

5 Diametral Pitch Involute 2″ Face, Hubs Flush

Number of Teeth	Price With K. S. Or S. S.	CODE WORD	Pitch Diameter, Inches	Number of Teeth	Price With K. S. Or S. S.	CODE WORD	Pitch Diameter, Inches
12	$ 4.00	Liquebatis	2 2/5	114	$24.40	Longarios	22 4/5
13	4.20	Liquebis	2 3/5	116	24.80	Longarium	23 1/5
14	4.40	Liquefacta	2 4/5	118	25.20	Longazas	23 3/5
15	4.60	Liquefie	3	120	25.60	Longazo	24
16	4.80	Liquefying	3 1/5	122	26.00	Longbalsem	24 2/5
17	5.00	Liquentem	3 2/5	124	26.40	Longboat	24 4/5
18	5.20	Liquerat	3 3/5	126	26.80	Longbreuk	25 1/5
19	5.40	Liquerimus	3 4/5	128	27.20	Longeant	25 3/5
20	5.60	Liquerunt	4	130	27.60	Longemus	26
21	5.80	Liquescet	4 1/5	132	28.00	Longevas	26 2/5
22	6.00	Liquescunt	4 2/5	134	28.40	Longevidad	26 4/5
23	6.20	Liquidaba	4 3/5	136	28.80	Longevite	27 1/5
24	6.40	Liquidable	4 4/5	138	29.20	Longevo	27 3/5
25	6.60	Liquidacaco	5	140	29.60	Longevous	28
26	6.80	Liquidaron	5 1/5	142	30.00	Longgezwel	28 2/5
27	7.00	Liquidator	5 2/5	144	30.40	Longhand	28 4/5
28	7.20	Liquidetto	5 3/5	146	30.80	Longholte	29 1/5
29	7.40	Liquidez	5 4/5	148	31.20	Longiamus	29 3/5
30	7.60	Liquidezza	6	150	31.60	Longiandam	30
32	8.00	Liquidiert	6 2/5	152	32.00	Longiandos	30 2/5
34	8.40	Liquidity	6 4/5	154	32.40	Longiantem	30 4/5
36	8.80	Liquidize	7 1/5	156	32.80	Longiarent	31 1/5
38	9.20	Liquidness	7 3/5	158	33.20	Longiatura	31 3/5
40	9.60	Liquidorum	8	160	33.60	Longiavero	32
42	10.00	Liquidos	8 2/5	162	34.10	Longibande	32 2/5
44	10.40	Liquimos	8 4/5	164	34.60	Longietis	32 4/5
46	10.80	Liquissent	9 1/5	166	35.10	Longifolie	33 1/5
48	11.20	Lonchorum	9 3/5	168	35.60	Longilabre	33 3/5
50	11.60	Lonchos	10	170	36.10	Longilobe	34
52	12.00	Lonchum	10 2/5	172	36.60	Longimane	34 2/5
54	12.40	Loncloath	10 4/5	174	37.10	Longimanum	34 4/5
56	12.80	Loncoparco	11 1/5	176	37.60	Longimetry	35 1/5
58	13.20	Loncostoma	11 3/5	178	38.10	Longinant	35 3/5
60	13.60	Londerira	12	180	38.60	Longincuas	36
62	14.00	Londinense	12 2/5	182	39.10	Longingly	36 2/5
64	14.40	Londobris	12 4/5	184	39.60	Longinquis	36 4/5
66	14.80	Londoner	13 1/5	186	40.10	Longinquo	37 1/5
68	15.20	Londonism	13 3/5	188	40.60	Longipalpe	37 3/5
70	15.60	Londonize	14	190	41.10	Longipedis	38
72	16.00	Londrin	14 2/5	192	41.60	Longipinne	38 2/5
74	16.40	Loneliness	14 4/5	194	42.10	Longiscape	38 4/5
76	16.80	Loneness	15 1/5	196	42.60	Longiscunt	39 1/5
78	17.20	Lonesome	15 3/5	198	43.10	Longisma	39 3/5
80	17.60	Lonesomely	16	200	43.60	Longissimo	40
82	18.00	Longadat	16 2/5	202	44.10	Longitiam	40 2/5
84	18.40	Longabimus	16 4/5	204	44.60	Longitude	40 4/5
86	18.80	Longaders	17 1/5	206	45.10	Longiturna	41 1/5
88	19.20	Longaevaba	17 3/5	208	45.60	Longkamer	41 3/5
90	19.60	Longaevant	18	210	46.10	Longkruid	42
92	20.00	Longaevet	18 2/5	212	46.60	Longkwaal	42 2/5
94	20.40	Longaevito	18 4/5	214	47.10	Longly	42 4/5
96	20.80	Longailles	19 1/5	216	47.60	Longmeters	43 1/5
98	21.20	Longamente	19 3/5	218	48.10	Longmiddel	43 3/5
100	21.60	Longanimas	20	220	48.60	Longmynd	44
102	22.00	Longanime	20 2/5	222	49.10	Longness	44 2/5
104	22.40	Longaniza	20 4/5	224	49.60	Longnose	44 4/5
106	22.80	Longanon	21 1/5	228	50.60	Longorum	45 3/5
108	23.20	Longanonem	21 3/5	232	51.60	Longotte	46 2/5
110	23.60	Longanonis	22	236	52.60	Longprimer	47 1/5
112	24.00	Longarela	22 2/5	240	53.60	Longrine	48

For Horse Power Tables, see page 486. Larger gears of almost any diameter and race can be furnished. Prices on application. In telegraphing use code for bores, page 372.

Cut Tooth Cast Iron Bevel and Miter Gears

1 Diametral Pitch Involute 8 1/2″ Face

Number of Teeth	Price With K. S. Or S. S.	CODE WORD	Pitch Diameter, Inches	Number of Teeth	Price With K. S. Or S. S.	CODE WORD	Pitch Diameter, Inches
12	$100.00	Longsome	12	42	$325.00	Longzweer	42
13	107.50	Longspun	13	44	340.00	Lonja	44
14	115.00	Longtemps	14	46	355.00	Lonjista	46
15	122.50	Longtering	15	48	370.00	Lonkers	48
16	130.00	Longueirao	16	50	385.00	Lonlanla	50
17	137.50	Longuerie	17	52	400.00	Lontananza	52
18	145.00	Longuet	18	54	415.00	Lontanetto	54
19	152.50	Longulanos	19	56	430.00	Lontgaten	56
20	160.00	Longulite	20	58	445.00	Lontkist	58
21	167.50	Longulorum	21	60	460.00	Lontra	60
22	175.00	Longulos	22	62	475.00	Lontrecht	62
23	182.50	Longuntica	23	64	490.00	Lontroer	64
24	190 00	Longura	24	66	505.00	Lontroeren	66
25	197.50	Longurioni	25	68	520.00	Lontslot	68
26	205.00	Longvaten	26	70	535.00	Lontstok	70
28	220.00	Longvlecht	28	72	550.00	Loobily	72
30	235.00	Longvuur	30	74	565.00	Loochenaar	74
32	250.00	Longways	32	76	580.00	Loochenen	76
34	265.00	Longwervel	34	78	595.00	Loodachtig	78
36	280.00	Longworm	36	80	610.00	Loodader	80
38	295.00	Longziekte	38	82	625.00	Loodbalien	82
40	310.00	Longzucht	40	84	640.00	Loodberg	84

1 1/4 Diametral Pitch Involute 7″ Face

12	$ 65.00	Loodblik	9 3/5	52	$253.00	Loodsman	41 3/5
13	70.00	Loodboom	10 2/5	54	262.00	Loodspaath	43 1/5
14	75.00	Loodboter	11 1/5	56	271.00	Loodsuiker	44 4/5
15	80.00	Looddraad	12	58	280.00	Loodsvlag	46 2/5
16	85.00	Looderts	12 4/5	60	289.00	Loodswezen	48
17	90.00	Loodglans	13 3/5	62	298.00	Loodtalie	49 3/5
18	95.00	Loodjes	14 2/5	64	307.00	Loodtang	51 1/5
19	100.00	Loodkalk	15 1/5	66	316.00	Loodverf	52 4/5
20	105.00	Loodkoning	16	68	325.00	Loodvorm	54 2/5
21	110.00	Loodkruid	16 4/5	70	334.00	Loodwit	56
22	115.00	Loodlepels	17 3/5	72	343.00	Loodzalf	57 3/5
23	120.00	Loodmelk	18 2/5	74	352.00	Loodzand	59 1/5
24	125.00	Loodmetaal	19 1/5	76	361.00	Loodzwaar	60 4/5
25	130.00	Loodmijnen	20	78	370.00	Loofdak	62 2/5
26	135.00	Loodnagel	20 4/5	80	379.00	Loofdaken	64
27	140.00	Loodoker	21 3/5	82	388.00	Loofhut	65 3/5
28	145.00	Loodolie	22 2/5	84	397.00	Loofhutten	67 1/5
30	154.00	Loodoven	24	86	406.00	Loofmest	68 4/5
32	163.00	Loodpan	25 3/5	88	415.00	Loofrol	70 2/5
34	172.00	Loodpannen	27 1/5	90	424.00	Loofrollen	72
36	181.00	Loodpoeder	28 4/5	92	433.00	Loofstil	73 3/5
38	190.00	Loodproef	30 2/5	94	442.00	Loofworm	75 1/5
40	199.00	Loodrecht	32	96	451.00	Loofwormen	76 4/5
42	208.00	Loodsboot	33 3/5	98	460.00	Loogasch	78 2/5
44	217.00	Loodschuim	35 1/5	100	469.00	Loogbad	80
46	226.00	Loodsen	36 4/5	102	478.00	Loogbaden	81 3/5
48	235.00	Loodsende	38 2/5	104	487.00	Loogbakken	83 1/5
50	244.00	Loodsgeld	40	105	491.50	Loogdoeken	84

1 1/2 Diametral Pitch Involute 5 1/2″ Face

12	$40.00	Loogkuip	8	16	$50.00	Loogzout	10 2/3
13	42.50	Loogmand	8 2/3	17	52.50	Looigaar	11 1/3
14	45.00	Loogtrog	9 1/3	18	55.00	Looikuipen	12
15	47.50	Loogwater	10	19	57.50	Looischors	12 2/3

For Horse Power Tables, see page 486. Larger gears of almost any diameter and face can be furnished. Prices on application. In telegraphing use code for bores, page 372.

Cut Tooth Cast Iron Bevel and Miter Gears

1 1/2 Diametral Pitch Involute 5 1/2″ Face—Continued

Number of Teeth	Price With K. S. Or S. S.	CODE WORD	Pitch Diameter, Inches	Number of Teeth	Price With K. S. Or S. S.	CODE WORD	Pitch Diameter, Inches
20	$ 60.00	Looistof	13 1/3	56	$142.00	Loopboden	37 1/3
22	65.00	Lookbed	14 2/3	58	146.50	Loopdeern	38 2/3
24	70.00	Lookbedden	16	60	151.00	Loopers	40
26	74.50	Lookbol	17 1/3	62	155.50	Loopertjes	41 1/3
28	79.00	Lookbollen	18 2/3	64	160.00	Loopgang	42 2/3
30	83.50	Lookgroen	20	66	164.50	Loopgangen	44
32	88.00	Lookraket	21 1/3	68	169.00	Loopgraven	45 1/3
34	92.50	Looksaus	22 2/3	70	173.50	Loophole	46 2/3
36	97.00	Looksmaak	24	72	178.00	Loopholing	48
38	101.50	Looksoep	25 1/3	74	182.50	Loophonden	49 1/3
40	106.00	Loomheid	26 2/3	76	187.00	Loopjongen	50 2/3
42	110.50	Loomiger	28	78	191.50	Loopkevers	52
44	115.00	Loomigheid	29 1/3	80	196.00	Loopmaar	53 1/3
46	119.50	Loomst	30 2/3	82	200.50	Looppao	54 2/3
48	124.00	Loondagen	32	84	205.00	Looppaden	56
50	128.50	Loonheer	33 1/3	86	209.50	Loopperk	57 1/3
52	133.00	Loonheeren	34 2/3	88	214.00	Loopperken	58 2/3
54	137.50	Loonkoren	36	90	218.50	Loopplaats	60

1 3/4 Diametral Pitch Involute 5″ Face

12	$ 26.00	Loopplank	6 6/7	44	$ 82.20	Lopeman	25 1/7
13	27.80	Loopschaaf	7 3/7	46	85.60	Lopezia	26 2/7
14	29.60	Loopschuit	8	48	89.00	Lopanthe	27 3/7
15	31.40	Loopspier	8 4/7	50	92.40	Lophidie	28 4/7
16	33.20	Loopstok	9 1/7	52	95.80	Lophidoon	29 5/7
17	35.00	Loopveld	9 5/7	54	99.20	Lophirace	30 6/7
18	36.80	Loopvoeten	10 2/7	56	102.60	Lophire	32
19	38.60	Loopvogels	10 6/7	58	106.00	Lophocere	33 1/7
20	40.40	Loopwagens	11 3/7	60	109.40	Lophogone	34 2/7
21	42.20	Loosed	12	62	112.80	Lophome	35 3/7
22	44 00	Loosely	12 4/7	64	116.20	Lophophane	36 4/7
24	47.60	Loosened	13 5/7	66	119.60	Lophophore	37 5/7
26	51.20	Looseness	14 6/7	68	123.00	Lophophyte	38 6/7
28	54 80	Loosening	16	70	126.40	Lophopode	40
30	58 40	Loosing	17 1/7	72	129.80	Lophops	41 1/7
32	61.80	Loosurne	18 2/7	74	133.20	Lophornis	42 2/7
34	65.20	Looters	19 3/7	76	136.60	Lophortyx	43 3/7
36	68.60	Lopadibus	20 4/7	78	140.00	Lophosie	44 6/7
38	72.00	Lopadis	21 5/7	80	143.40	Lophostrix	45 5/7
40	75.40	Lopadusa	22 6/7	82	146.80	Lophyrus	46 6/7
42	78.80	Lopas	24	84	150.20	Lopimia	48

2 Diametral Pitch Involute 4″ Face

12	$ 19.80	Lopodunum	6	32	$ 47.40	Loquebar	16
13	21.20	Lopping	6 1/2	34	49.80	Loquela	17
14	22.60	Lopposo	7	36	52 20	Loquelaris	18
15	24.00	Loquace	7 1/2	38	54.60	Loquelarum	19
16	25.40	Loquacious	8	40	57.00	Loquentium	20
17	26.80	Loquacis	8 1/2	42	59.40	Loqueter	21
18	28.20	Loquacitas	9	44	61.80	Loquios	22
19	29.60	Loquacity	9 1/2	46	64.20	Loquitaris	23
20	31.00	Loquacium	10	48	66.60	Loquitati	24
21	32.40	Loquaculos	10 1/2	50	69.00	Loquitatos	25
22	33.80	Loquat	11	52	71.40	Loquitemur	26
24	36.60	Loqueado	12	54	73.80	Loramenta	27
26	39.40	Loquearias	13	56	76.20	Loramentis	28
28	42.20	Loqueasen	14	58	78.60	Loramentum	29
30	45.00	Loquebamur	15	60	81.00	Loranite	30

For Horse Power Tables, see page 486. Larger gears of almost any diameter and face can be furnished. Prices on application. In telegraphing use code for bores, page 372.

Cut Tooth Cast Iron Bevel and Miter Gears

2 Diametral Pitch Involute 4″ Face—Continued

Number of Teeth	Price With K. S. Or S. S.	CODE WORD	Pitch Diameter, Inches	Number of Teeth	Price With K. S. Or S S.	CODE WORD	Pitch Diameter, Inches
62	$ 83.40	Loranthe	31	80	$105.00	Lordarello	40
64	85.80	Loranthide	32	82	107.40	Lordasti	41
66	88.20	Loranto	33	84	109.80	Lordato	42
68	90.60	Lorariorum	34	86	112.20	Lorddom	43
70	93.00	Lorarium	35	88	114.60	Lorderete	44
72	95.40	Lorbaum	36	90	117.00	Lordezza	45
74	97.80	Lorbeer	37	92	119.40	Lordizia	46
76	100.20	Lordaggine	38	94	121.80	Lordliness	47
78	102.60	Lordamente	39	96	124.20	Lordling	48

2 1/4 Diametral Pitch Involute 3 1/2″ Face

12	$ 16.00	Lordops	5 1/3	46	$ 51.00	Loricating	20 4/9
13	17.10	Lordosis	5 7/9	48	53.00	Loricavero	21 1/3
14	18.20	Lordship	6 2/9	50	55.00	Loricera	22 2/9
15	19.30	Lordura	6 2/3	52	57.00	Loricule	23 1/9
16	20.40	Loredano	7 1/9	54	59.00	Lorientais	24
17	21.50	Lorenesa	7 5/9	56	61.00	Lorificium	24 8/9
18	22.60	Lorenz	8	58	63.00	Lorigada	25 7/9
19	23.70	Loreorum	8 4/9	60	65.00	Lorigados	26 2/3
20	24.80	Loreos	8 8/9	62	67.00	Lorigao	27 5/9
21	25.90	Loresmen	9 1/3	64	69.00	Lorigueras	28 4/9
22	27.00	Lorette	9 7/9	66	71.00	Loriguero	29 1/3
23	28.00	Lorgnades	10 2/9	68	73.00	Loriguillo	30 2/9
24	29.00	Lorgnement	10 2/3	70	75.00	Lorikeet	31 1/9
26	31.00	Lorgnette	11 5/9	72	77.00	Lorinae	32
28	33.00	Loricabit	12 4/9	74	79.00	Loriot	32 8/9
30	35.00	Loricabunt	13 1/3	76	81.00	Loripide	33 7/9
32	37.00	Loricaire	14 2/9	78	83.00	Lorkeboom	34 2/3
34	39.00	Loricamus	15 1/9	80	85.00	Lorman	35 5/9
36	41.00	Loricandam	16	82	87.00	Lorofosco	36 4/9
38	43.00	Loricandos	16 8/9	84	89.00	Loroglosse	37 1/3
40	45.00	Loricaria	17 7/9	86	91.00	Lorpidon	38 2/9
42	47.00	Loricarios	18 2/3	88	93.00	Lorquinas	39 1/9
44	49.00	Loricarium	19 5/9	90	95.00	Lorquino	40

2 1/2 Diametral Pitch Involute 3 1/2″ Face

12	$ 14.00	Lorrain	4 4/5	48	$ 44.60	Losbollen	19 1/5
13	14.90	Lorrenkist	5 1/5	50	46.20	Losbonzen	20
14	15.80	Lorrenmand	5 3/5	52	47.80	Losbrausen	20 4/5
15	16.70	Lorretjes	6	54	49.40	Losbrechen	21 3/5
16	17.60	Lorrewerk	6 2/5	56	51.00	Losbreking	22 2/5
17	18.50	Lorriger	6 4/5	58	52.60	Losbringen	23 1/5
18	19.40	Lorry	7 1/5	60	54.20	Loscedels	24
19	20.30	Lorsque	7 3/5	62	55.80	Losdampen	24 4/5
20	21.20	Lorymer	8	64	57.40	Losdansen	25 3/5
22	23.00	Losament	8 4/5	66	59.00	Losdelven	26 2/5
24	24.80	Losangeant	9 3/5	68	60.60	Losdoen	27 1/5
26	26.60	Losankern	10 2/5	70	62.20	Losdonnern	28
28	28.40	Losbaar	11 1/5	72	63.80	Losdrogen	28 4/5
30	30.20	Losbakeren	12	74	65.40	Loseggen	29 3/5
32	31.80	Losbandig	12 4/5	76	67.00	Loser	30 2/5
34	33.40	Losbarsten	13 3/5	78	68.60	Losfahern	31 1/5
36	35.00	Losbeuken	14 2/5	80	70.20	Losfesseln	32
38	36.60	Losbinden	15 1/5	82	71.80	Losfeuern	32 4/5
40	38.20	Losbinding	16	84	73.40	Loshaekeln	33 3/5
42	39.80	Losbitten	16 4/5	86	75.00	Loshaspeln	34 2/5
44	41.40	Losblazen	17 3/5	88	76.60	Loshelpen	35 1/5
46	43.00	Losboenen	18 2/5	90	78.20	Loshoesten	36

For Horse Power Tables, see page 486. Larger gears of almost any diameter and face can be furnished. Prices on application. In telegraphing use code for bores, page 372.

Cut Tooth Cast Iron Bevel and Miter Gears

2 3/4 Diametral Pitch Involute 3″ Face

Number of Teeth	Price With K. S. Or S. S.	CODE WORD	Pitch Diameter, Inches	Number of Teeth	Price With K. S. Or S. S.	CODE WORD	Pitch Diameter, Inches
12	$12.00	Loshoofd	4 4/11	52	$38.50	Losnesteln	18 10/11
13	12.70	Loshoofdig	4 8/11	54	39.80	Lospakken	19 7/11
14	13.40	Loshouden	5 1/11	56	41.10	Lospellen	20 4/11
15	14.10	Losingly	5 5/11	58	42.40	Losplatzen	21 1/11
16	14.80	Loskaarden	5 9/11	60	43.70	Lospraten	21 9/11
17	15.50	Loskammen	6 2/11	62	45.00	Losprikken	22 6/11
18	16.20	Loskappen	6 6/11	64	46.30	Losrafelen	23 3/11
19	16.90	Loskauf	6 10/11	66	47.60	Losraspen	24
20	17.60	Loskaufen	7 3/11	68	48.90	Losreden	24 8/11
21	18.30	Loskaufung	7 7/11	70	50.20	Losreissen	25 5/11
22	19.00	Losklinken	8	72	51.50	Losrotten	26 2/11
24	20.30	Loskloppen	8 8/11	74	52.80	Losrukking	26 10/11
26	21.60	Losknagen	9 5/11	76	54.10	Lossagen	27 7/11
28	22.90	Losknippen	10 2/11	78	55.40	Lossagung	28 4/11
30	24.20	Loskoopen	10 10/11	80	56.70	Lossende	29 1/11
32	25.50	Loskooping	11 7/11	82	58.00	Lossful	29 9/11
34	26.80	Loskoppeln	12 4/11	84	59.30	Lossing	30 6/11
36	28.10	Loslassen	13 1/11	86	60.60	Lossvorren	31 3/11
38	29.40	Loslassung	13 9/11	88	61.90	Losslaan	32
40	30.70	Loslaten	14 6/11	90	63.20	Losslaande	32 8/11
42	32.00	Loslating	15 3/11	92	64.50	Lossless	33 5/11
44	33.30	Losloesen	16	94	65.80	Lossmeden	34 2/11
46	34.60	Losmachen	16 8/11	96	67.10	Lossocaria	34 10/11
48	35.90	Losmachung	17 5/11	98	68.40	Lossocosmo	35 7/11
50	37.20	Losnagelen	18 2/11	100	69.70	Lossodone	36 4/11

3 Diametral Pitch Involute 2 1/2″ Face

12	$10.00	Losson	4	56	$36.40	Lotboek	18 2/3
13	10.60	Lossopsia	4 1/3	58	37.60	Lotboeken	19 1/3
14	11.20	Lossotalmo	4 2/3	60	38.80	Lotbus	20
15	11.80	Losspannen	5	62	40.00	Lotbussen	20 2/3
16	12.40	Losspelden	5 1/3	64	41.20	Loteiro	21 1/3
17	13.00	Losspil	5 2/3	66	42.40	Loteling	22
18	13.60	Losspillen	6	68	43.60	Lotelingen	22 2/3
19	14.20	Losspoelen	6 1/3	70	44.80	Lotgemeen	23 1/3
20	14.80	Lostag	6 2/3	72	46.00	Lotgeval	24
21	15.40	Losthauen	7	74	47.20	Lothario	24 2/3
22	16.00	Lostoomig	7 1/3	76	48.40	Lothasche	25 1/3
24	17.20	Lostrappen	8	78	49.60	Lothasubus	26
26	18.40	Lostreiben	8 2/3	80	50.80	Lothgarn	26 2/3
28	19.60	Lostrekken	9 1/3	82	52.00	Lothgarnen	27 1/3
30	20.80	Losung	10	84	53.20	Lothleine	28
32	22.00	Losvallen	10 2/3	86	54.40	Lothperlen	28 2/3
34	23.20	Losvliegen	11 1/3	88	55.60	Lothriss	29 1/3
36	24.40	Loswerfen	12	90	56.80	Lothstein	30
38	25.60	Loswickeln	12 2/3	92	58.00	Lothwage	30 2/3
40	26.80	Loswoelen	13 1/3	94	59.20	Lothweise	31 1/3
42	28.00	Losziehen	14	96	60.40	Lotichius	32
44	29.20	Losziehung	14 2/3	98	61.60	Lotiforme	32 2/3
46	30.40	Loszinnig	15 1/3	100	62.80	Lotilenti	33 1/3
48	31.60	Loszweepen	16	102	64.00	Lotilentos	34
50	32.80	Lotacao	16 2/3	104	65.20	Lotilentum	34 2/3
52	34.00	Lotastros	17 1/3	106	66.40	Lotingen	35 1/3
54	35.20	Lotastrum	18	108	67.60	Lotionne	36

For Horse Power Tables, see page 486. Larger gears of almost any diameter and face can be furnished. Prices on application. In telegraphing use code for bores, page 372.

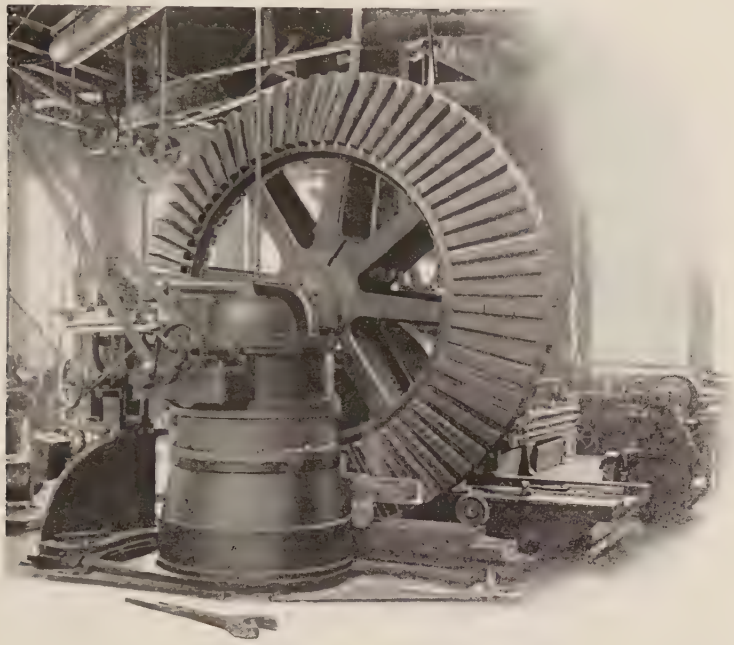


Fig. 45460. Mortise Gear on Gear Cutter

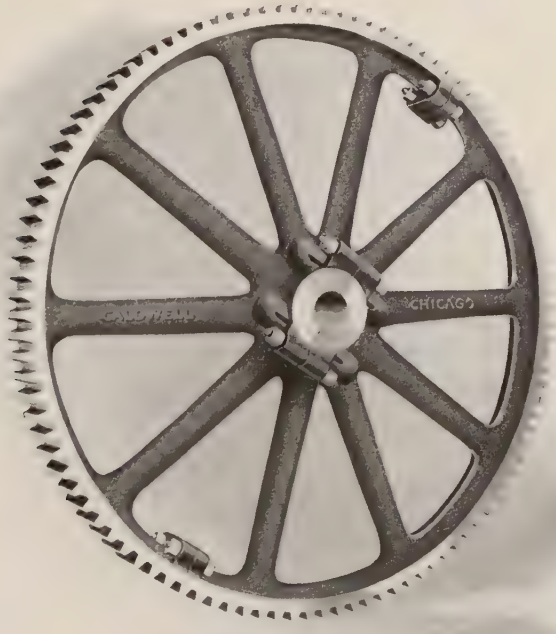


Fig. 45461. Large Cast Tooth Split Spur Gear

Manila Rope Transmission

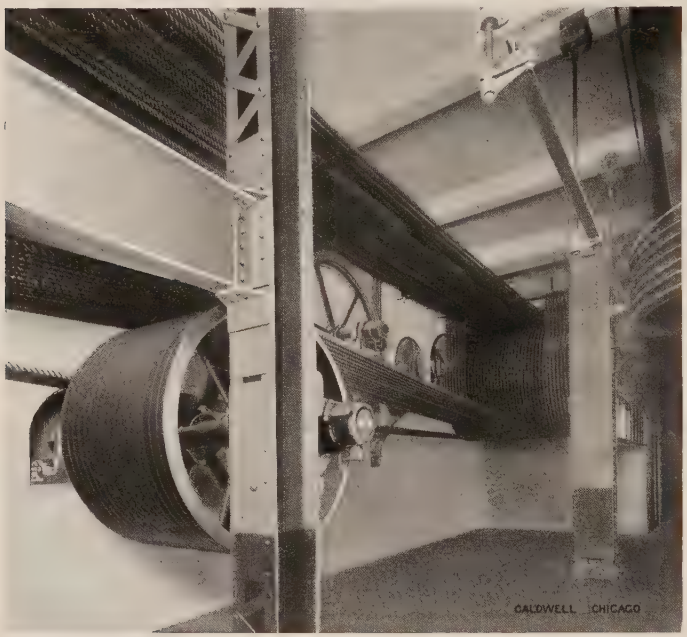


Fig. 45462. (*Larignum*)

Manila Rope Transmission, when properly designed and installed, is an efficient, safe and noiseless means of transmitting power. For medium and large capacity drives the first cost, as compared with a belt drive, is generally somewhat less, and the cost of maintenance is very small. Rope drives, however, must be very carefully designed, as a poorly designed drive will always give trouble and will be expensive to maintain. Our experience with rope drives has been very extensive and we will be pleased to lay out and furnish estimates on drives upon receipt of the necessary information. Inquiries should cover the following points:

1. Horse power required.
2. Speed, direction of rotation and relative location of the driving and driven shafts.
3. If space is limited, give the largest diameter of sheave which can be used.
4. Show any obstructions to be cleared by ropes.
5. Will clutches be necessary to throw the drive in and out?
6. Indicate the most convenient supports for the tension carriage and track.
7. Send sketch, showing side elevation and plan of situation.

Manila Rope Transmission—Continued

There are two distinct systems of rope driving, the American or Continuous Rope System, and the English or Multiple Rope System. Each system has some advantages and, making both types, we can recommend the system which will give the best results in each case.

The American, or Continuous Rope System

The American System has one rope only, wound around the driver and driven sheave several times. The tension is maintained by a tension carriage, with weights to give the proper pull. The tension carriage must be so located as to take care of the slack where it accumulates, that is, on the slack side of the drive just off the driving sheave. The rope leading to the tension carriage sheave from the outside groove of the driver must either lead directly, or over a loose sheave, and must never pass over a tight groove of the driven sheave.

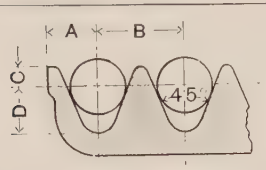
The American System can be used for almost any arrangement of drive, being satisfactory for vertical drives, which cannot be used in the English System, for quarter twist and other difficult drives. The tension carriage automatically takes care of variations in load, and there is no tendency of the ropes to jump at light loads, as is sometimes the case with the Multiple System.

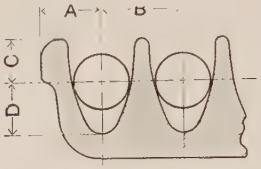
The English, or Multiple Rope System

This system is somewhat more simple than the American System, consisting of a number of separate ropes connecting the driving and driven sheaves, and depending on the weight of the rope for tension. The ropes, because of the necessity for weight, are generally larger than is the practice with American System drives. The English System drive must have the ropes horizontal or nearly so.

Each rope, being independent of the others, must be spliced separately, and care must be taken to have the tension approximately the same. If one rope breaks it may be removed, and the drive operated with the remaining ropes until a convenient time for repair. With light loads or variable loads, there is sometimes a tendency for the ropes to jump and vibrate in the grooves. This can be corrected to some extent by removing one or more ropes, putting a greater load on the remaining ropes. This system is particularly adapted where several driven shafts are to be operated from one driver, separate ropes going to the different driven sheaves.

Standard Grooves for Rope Sheaves





Diam. of Rope, Inches	AMERICAN A Inches	AMERICAN B Inches	AMERICAN C Inches	AMERICAN D Inches	ENGINEERS' A Inches	ENGINEERS' B Inches	ENGINEERS' C Inches	ENGINEERS' D Inches	ENGLISH-WALKER A Inches	ENGLISH-WALKER B Inches	ENGLISH-WALKER C Inches	ENGLISH-WALKER D Inches
3/4	11/16	1 7/8	7/32	9/16	15/16	1 3/8	13/16	5/8	3/4	1 1/16	9/16	5/8
7/8	13/16	1 5/16	1/4	3/4	1 1/16	1 1/2	7/8	11/16	...	...	...	...
1	7/8	1 1/2	5/16	13/16	1 3/8	1 7/8	1 3/16	7/8	1 1/16	1 1/2	3/4	7/8
1 1/8	1	1 11/16	3/8	15/16	1 1/2	2	1 1/4	15/16	...	...	...	...
1 1/4	1 1/16	1 7/8	7/16	1	1 5/8	2 3/8	1 5/16	1 1/16	1 9/32	1 3/4	15/16	1 1/8
1 3/8	1 3/16	2 1/16	15/32	1 3/16	1 11/16	2 3/8	1 3/8	1 1/4	...	...	...	...
1 1/2	1 1/4	2 1/4	9/16	1 7/32	1 13/16	2 1/4	1 9/16	1 3/8	1 1/2	2 1/8	1 1/8	1 5/16
1 3/4	1 7/16	2 5/8	11/16	1 3/8	2 1/16	2 1/2	1 11/16	1 9/16	1 25/32	2 1/2	1 5/16	1 1/2
2	1 7/16	2 5/8	3/8	1 11/16	2 5/16	2 3/4	1 11/16	1 9/16	2 1/16	2 7/8	1 1/2	1 3/4

Because of the constant tension in an American System drive and the consequent lack of jumping of the ropes, the grooves do not have to be as deep as with the English System.

Width of face of sheave = (No. of grooves—1) x B+2A.

Rope Drive Data

Use large sheaves, preferably forty times the diameter of the rope as a minimum (see table below), and never less than thirty times the diameter of the rope. Small sheaves cause friction between the fibres of the rope and cause internal wear and short life.

Use only enough weight on the tension carriage to make the rope run without vibration and to prevent slipping in the grooves. Excessive weight on the tension carriage wears out the rope.

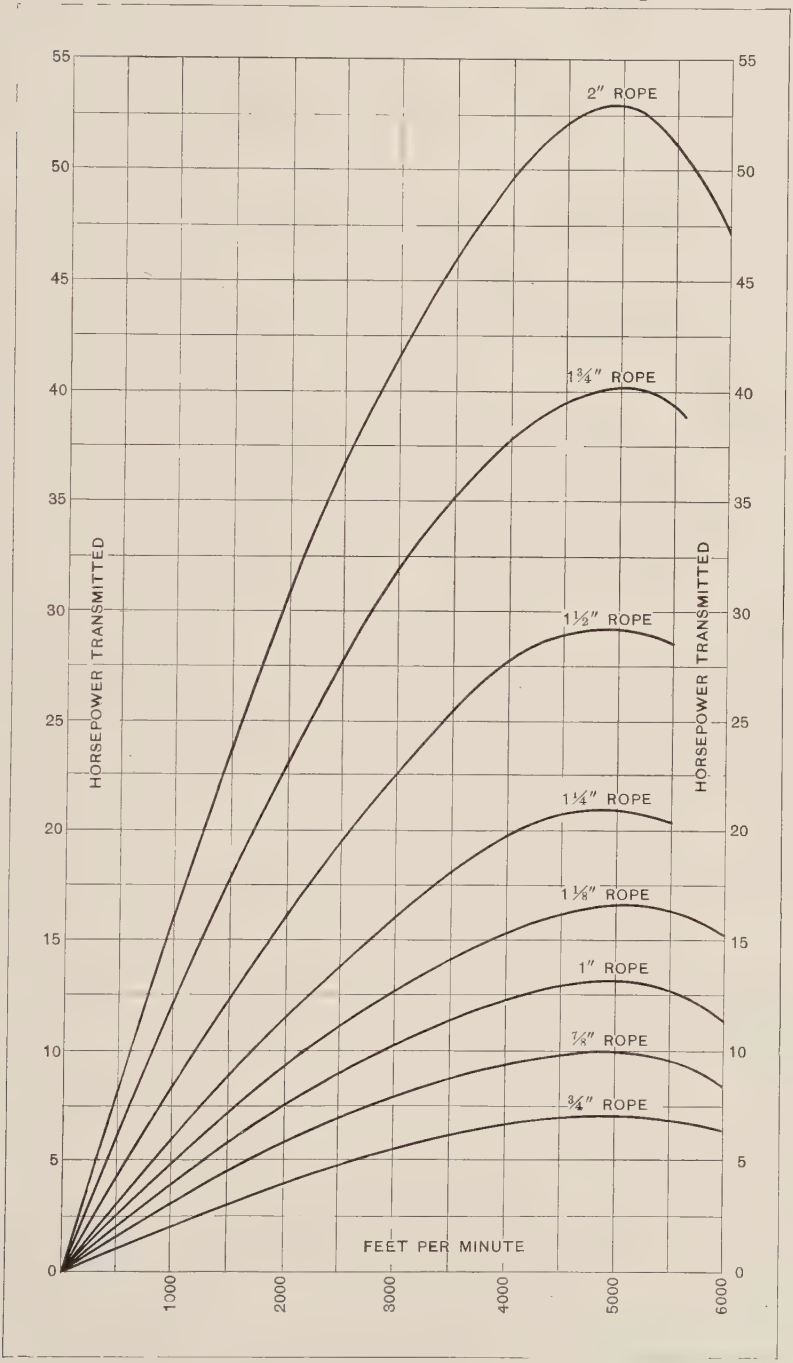
Give preference to high speed, but not exceeding 5,000 feet per minute.

Do not use one tension carriage to maintain the tension on too many grooves. A safe limit is to use one carriage for twelve grooves. Where a greater number of grooves is necessary, divide the drive and use two or more tension carriages.

Diameter of Rope, Inches	Weight, Rope per Foot Lbs.	Maximum Working Tension	Length of Splice, Feet	Diameter of Smallest Sheave	Maximum Tension Weight
3/4	.20	112	8	30	95
7/8	.26	153	8	36	125
1	.34	200	10	40	175
1 1/8	.43	250	10	44	225
1 1/4	.53	310	10	48	275
1 3/8	.65	380	12	54	325
1 1/2	.77	450	12	60	375
1 5/8	.90	530	12	66	425
1 3/4	1.04	610	12	72	550
2	1.36	800	14	84	650

Horsepower Transmitted by Manila Rope

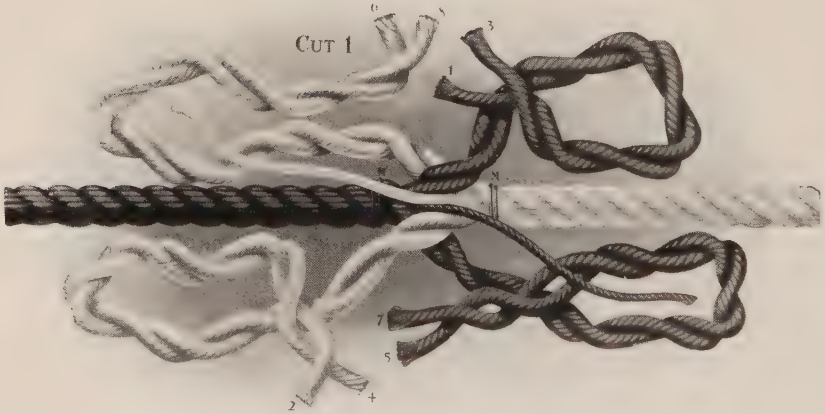
Multiply Horse Power from Chart by Number of Driving Grooves



Splicing Manila Transmission Rope

It frequently happens that, owing to the expense and delay in having a man come from the rope maker's to splice a rope, customers prefer to have the work done by men regularly in their employ, and for the benefit of such, as well as to furnish information to others who may have occasion to consult this catalogue, we insert the following instructions.

Take for instance a 1¾-inch rope of four strands. Having tied twines at the points on the rope which are to butt against each other

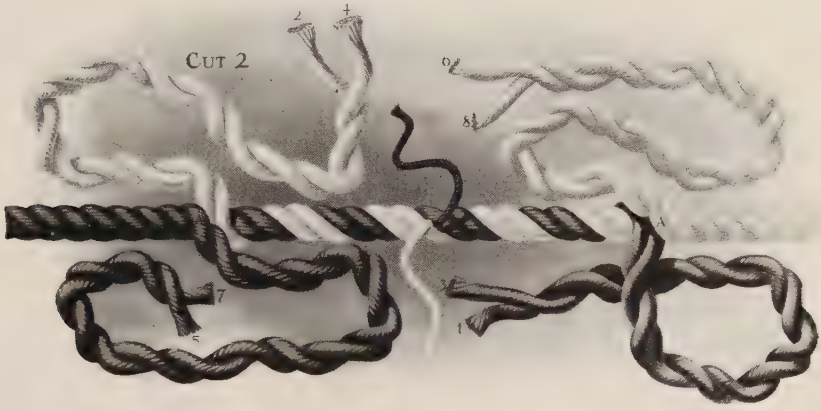


in making the splice, M and M (Cut No. 1), leave the loose ends of the rope so that they will reach as much as 6 feet each way past these marking twines. Now take each loose end in turn and unlay the strands, two at a time, back as far as the twines, place the ropes together, and pull out the hearts or cores, as shown in the cut.

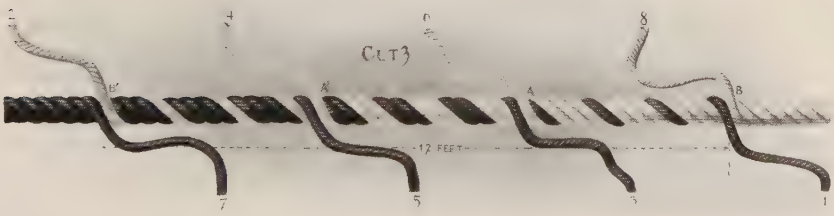
After this, cut marking twine M and continue unlaying the pair of strands 6-8 until at A (Cut No. 2), two feet farther back, and lay the pair of strands 1-3 in its place; remove marker M′, and having unlaid 5-7 back two feet, lay 2-4 in its place.

Splicing Ropes—Continued

Now cut 6-8 to such a length that it will reach to where the cores cross each other, and separating this pair of strands, unlay strand 8 back 4 feet more from A to B (Cut No. 3), leaving 6 at A; separate 1-3



and leaving 3 at A, lay 1 in place of 8 as far as 8 has been unlaid. The pair of strands 5-7 and 2-4 are now handled in the same way, after which cut the cores or hearts off at meeting point and butt the ends together inside the rope.



Next, as a matter of convenience, cut each of the strands to a length of about two feet, and starting with 2 and 7 at B′, unlay each strand back about 1 foot and divide it in halves, this being done preferably by removing the outer yarns from the inner yarns (count them) of the strand, as shown in Cut No. 4, and with a piece of fine cord whip the end of each half that is composed of the inner yarns. Now re-lay 2′,

Splicing Ropes—Continued

carrying it to 7 and 7′ (Cut No. 5), tie 2′ and 7′ in a plain knot, being careful to do this as shown in the cut, and not to cross them the other way.

Cut 4

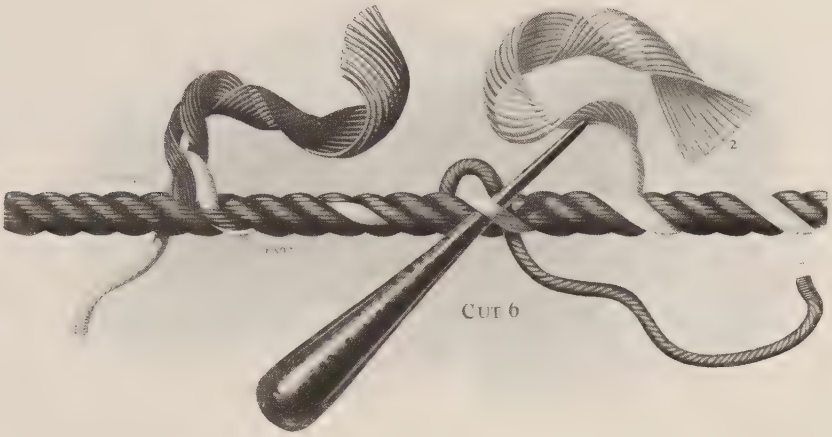
This avoids making at the point of tying a lump or raised place, which would shortly wear off when the rope went into service, and thus cause the undoing of the knot and the separation of the strands.

Cut 5

Pass 2′ through 7, as shown in Cut 6, and being careful not to cut the heart of the rope with the marlin spike, raise the two adjacent strands just enough to pass 2′ under them, and thus down through the rope. Now use the marlin spike again to slightly raise 2′, and slip

Splicing Ropes—Continued

7′ under it, and continue in this way, working 7′ around 2′ until 7′ is carried to 2. Pass 7′ through 2 and under the two adjacent strands and through the rope, as was done with 2′ at 7. This operation having



Cut 6

been performed with each of the associated strands, 2 and 7, 4 and 5, 6 and 3, 8 and 1 (Cut No. 3), the projecting ends are trimmed to a length of about 2 inches, and the splice is completed, each lock appearing as in Cut No. 7.

Cut 7

In all the work of splicing a rope, extreme care should be taken to keep the spliced portion of the same diameter as the main body of the rope, maintain the original "lay" of the rope as much as possible, and permit no raised places or lumps. Do not pull the strands too tightly when laying them in place of each other, and especially do not give the split strands more than their original natural twist in re-laying them.

Cast Iron Sheaves for Manila Rope Transmission

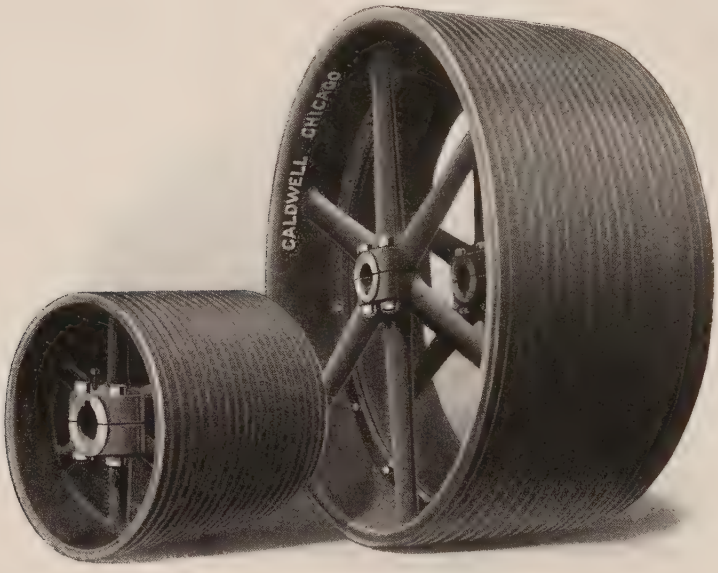
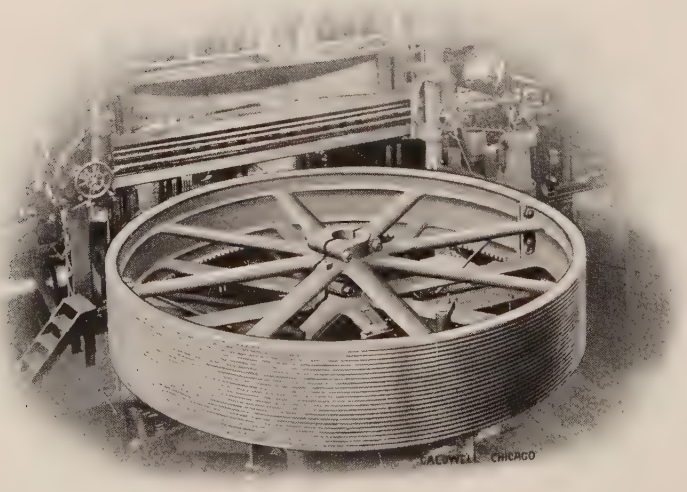


Fig. 45463. (*Lanakrieg*)
Large Sheaves with Clamp Hubs and Solid Rims.



20 ft. Diameter Sheave on One of Our Large Boring Mills.
Capacity of Mill, 20 ft. Diameter by 8 ft. Face

Iron Sheaves for Manila Rope Transmission

An extra charge is made for split sheaves, sheaves with clamp hubs, and for sheaves with unusually large bores.

Price List, Subject to Discount

Diameter	No. of Grooves	Price	Diameter	No. of Grooves	Price	Diameter	No. of Grooves	Price	Diameter	No. of Grooves	Price
12	1	$15.80	18	6	$53.80	22	17	$210.00	26	23	$331.60
	2	19.90		7	59.70		18	223.00		24	346.80
	3	25.50		8	64.50		19	236.00		25	362.00
	4	29.60		9	70.30	24	1	29.20	28	1	34.00
	5	32.30		10	76.90		2	39.40		2	45.40
	6	36.70		11	83.00		3	49.60		3	57.20
	7	40.80		12	88.30		4	60.00		4	69.20
	8	45.30		13	94.40		5	70.80		5	81.40
	9	49.80		14	101.60		6	81.60		6	93.80
	10	52.70		15	111.20		7	93.20		7	106.80
	11	56.30		16	121.50		8	104.60		8	120.20
	12	60.20	20	1	25.00		9	116.60		9	132.00
14	1	19.00		2	33.80		10	129.20		10	148.00
	2	22.30		3	42.40		11	141.80		11	162.80
	3	26.90		4	51.60		12	155.00		12	177.80
	4	31.20		5	60.80		13	168.80		13	193.40
	5	34.50		6	70.20		14	183.20		14	209.80
	6	38.30		7	80.00		15	197.60		15	226.20
	7	43.70		8	89.80		16	212.00		16	242.60
	8	47.20		9	100.00		17	226.40		17	259.00
	9	50.40		10	110.80		18	240.80		18	275.40
	10	55.10		11	121.60		19	255.20		19	291.80
	11	58.30		12	133.20		20	269.60		20	308.20
	12	62.70		13	145.40	26	1	31.60		21	324.60
16	1	20.30		14	158.20		2	42.20		22	341.00
	2	24.70		15	170.60		3	53.20		23	357.40
	3	28.40		16	183.00		4	64.60		24	373.80
	4	33.50		17	195.40		5	75.80		25	390.20
	5	37.80		18	207.80		6	87.60	30	1	36.80
	6	40.10	22	1	27.20		7	99.80		2	49.00
	7	44.20		2	36.40		8	110.40		3	61.20
	8	49.50		3	45.80		9	125.20		4	74.00
	9	52.30		4	55.60		10	138.40		5	87.20
	10	57.60		5	65.60		11	152.20		6	100.60
	11	60.40		6	75.80		12	166.40		7	114.20
	12	64.90		7	86.40		13	181.20		8	128.20
	13	69.20		8	97.20		14	196.80		9	142.60
	14	73.50		9	108.20		15	212.00		10	157.40
	15	77.80		10	119.80		16	227.20		11	172.80
	16	80.30		11	131.80		17	242.40		12	188.60
18	1	23.00		12	144.00		18	257.60		13	205.20
	2	31.20		13	157.20		19	272.80		14	222.40
	3	34.30		14	170.40		20	288.00		15	239.60
	4	41.50		15	183.60		21	303.20		16	256.80
	5	46.50		16	196.80		22	316.40		17	274.00

For telegraph code for Iron Sheaves, see page 519.

Discounts from the above list vary with the size of rope to be used. An extra charge is made for split sheaves, clamp hub sheaves and for unusually large bores.

Iron Sheaves for Manila Rope Transmission—Continued

Price List, Subject to Discount

Diameter	No. of Grooves	Price	Diameter	No. of Grooves	Price	Diameter	No. of Grooves	Price	Diameter	No. of Grooves	Price
30	18	$291.20	34	18	$332.20	38	18	$368.80	42	18	$421.00
	19	308.40		19	351.60		19	390.20		19	445.60
	20	325.60		20	371.00		20	411.60		20	470.20
	21	342.80		21	390.40		21	433.00		21	494.80
	22	360.00		22	409.80		22	454.40		22	519.40
	23	377.20		23	429.20		23	475.80		23	544.00
	24	394.40		24	448.60		24	497.20		24	568.00
	25	411.60		25	468.00		25	518.00		25	593.00
32	1	39.40	36	1	45.40	40	1	51.80	44	1	59.00
	2	52.40		2	59.80		2	68.20		2	77.60
	3	65.80		3	74.60		3	85.00		3	96.20
	4	79.20		4	90.00		4	102.20		4	115.60
	5	85.40		5	105.60		5	119.80		5	135.60
	6	107.60		6	121.60		6	137.80		6	155.80
	7	122.40		7	138.20		7	156.40		7	176.60
	8	137.60		8	155.20		8	175.60		8	198.20
	9	153.20		9	173.00		9	195.40		9	220.40
	10	169.40		10	191.00		10	215.60		10	243.20
	11	186.00		11	209.60		11	236.40		11	266.40
	12	203.00		12	228.80		12	257.80		12	290.40
	13	221.40		13	249.00		13	281.00		13	315.60
	14	240.60		14	270.20		14	304.00		14	341.20
	15	259.00		15	290.60		15	327.00		15	366.80
	16	277.40		16	311.00		16	350.00		16	392.40
	17	295.80		17	331.40		17	373.00		17	418.00
	18	314.20		18	351.80		18	396.00		18	443.60
	19	332.60		19	372.20		19	419.00		19	469.20
	20	351.00		20	392.60		20	442.00		20	494.80
	21	369.40		21	413.00		21	465.00		21	520.00
	22	389.80		22	433.40		22	488.00		22	546.00
	23	406.20		23	453.80		23	511.00		23	571.00
	24	424.60		24	474.20		24	534.00		24	597.00
	25	443.00		25	494.60		25	557.00		25	622.00
34	1	42.20	38	1	48.40	42	1	55.20	46	1	62.80
	2	56.20		2	63.80		2	72.40		2	82.40
	3	70.40		3	79.60		3	90.00		3	102.00
	4	84.80		4	95.80		4	108.40		4	122.40
	5	99.60		5	112.40		5	127.20		5	143.20
	6	115.00		6	129.40		6	146.20		6	164.60
	7	130.60		7	146.80		7	165.80		7	186.40
	8	146.80		8	164.00		8	186.20		8	209.00
	9	161.40		9	180.00		9	206.40		9	232.40
	10	180.80		10	200.20		10	228.40		10	256.00
	11	198.20		11	219.80		11	250.40		11	280.60
	12	216.40		12	240.00		12	273.20		12	305.80
	13	235.20		13	261.40		13	297.60		13	332.20
	14	254.60		14	282.00		14	322.60		14	359.40
	15	274.00		15	304.60		15	347.20		15	386.20
	16	293.40		16	326.00		16	371.80		16	413.00
	17	312.80		17	347.40		17	396.40		17	439.80

For telegraph code for Iron Sheaves, see page 519.

Discounts from the above list vary with the size of rope to be used. An extra charge is made for split sheaves, clamp hub sheaves and for unusually large bores.

Iron Sheaves for Manila Rope Transmission—Continued

Price List, Subject to Discount

Diameter	No. of Grooves	Price	Diameter	No. of Grooves	Price	Diameter	No. of Grooves	Price	Diameter	No. of Grooves	Price
46	18	$466.60	50	19	$553.00	54	20	$645.00	58	21	$748.00
	19	493.40		20	583.00		21	679.00		22	785.00
	20	520.00		21	612.00		22	713.00		23	822.00
	21	547.00		22	642.00		23	746.00		24	859.00
	22	573.00		23	672.00		24	780.00		25	896.00
	23	600.00		24	703.00		25	813.00	60	1	100.40
	24	627.00		25	733.00	56	1	87.60		2	127.60
	25	654.00	52	1	76.40		2	112.60		3	155.80
48	1	67.20		2	99.20		3	138.00		4	184.40
	2	87.60		3	122.20		4	164.20		5	213.60
	3	108.40		4	145.60		5	190.80		6	243.80
	4	129.60		5	170.00		6	218.20		7	274.60
	5	151.40		6	194.60		7	246.20		8	306.20
	6	174.00		7	220.00		8	275.00		9	338.60
	7	197.00		8	246.20		9	305.00		10	372.00
	8	220.80		9	272.80		10	334.80		11	405.80
	9	244.80		10	300.40		11	366.00		12	440.80
	10	270.00		11	328.80		12	397.80		13	477.00
	11	295.60		12	357.60		13	430.80		14	515.00
	12	322.00		13	388.20		14	465.00		15	552.00
	13	350.60		14	419.60		15	500.00		16	590.00
	14	380.80		15	451.60		16	535.00		17	629.00
	15	409.40		16	483.60		17	570.00		18	668.00
	16	438.00		17	515.00		18	605.00		19	706.00
	17	466.60		18	547.00		19	640.00		20	745.00
	18	495.20		19	579.00		20	675.00		21	783.00
	19	523.00		20	611.00		21	710.00		22	822.00
	20	552.00		21	643.00		22	745.00		23	861.00
	21	581.00		22	675.00		23	780.00		24	899.00
	22	609.00		23	707.00		24	815.00		25	938.00
	23	638.00		24	739.00		25	850.00	62	1	106.80
	24	666.00		25	771.00	58	1	93.60		2	135.60
	25	695.00	54	1	81.80		2	119.80		3	164.80
50	1	71.60		2	105.60		3	146.40		4	194.80
	2	92.80		3	129.80		4	173.80		5	225.60
	3	115.00		4	154.60		5	201.60		6	257.20
	4	137.20		5	180.00		6	230.40		7	289.40
	5	160.40		6	206.20		7	259.60		8	322.60
	6	183.80		7	232.80		8	290.00		9	356.40
	7	208.00		8	260.40		9	320.80		10	391.20
	8	233.00		9	288.40		10	352.60		11	426.80
	9	258.80		10	317.60		11	385.00		12	463.20
	10	284.80		11	347.00		12	418.40		13	501.00
	11	311.80		12	377.60		13	453.00		14	540.00
	12	339.60		13	409.80		14	489.00		15	581.00
	13	370.40		14	444.40		15	526.00		16	621.00
	14	401.20		15	477.80		16	563.00		17	661.00
	15	431.60		16	511.00		17	600.00		18	701.00
	16	462.00		17	545.00		18	637.00		19	741.00
	17	492.40		18	578.00		19	674.00		20	782.00
	18	522.00		19	612.00		20	711.00		21	822.00

For telegraph code for Iron Sheaves, see page 519.

Discounts from the above list vary with the size of rope to be used. An extra charge is made for split sheaves, clamp hub sheaves and for unusually large bores.

Iron Sheaves for Manila Rope Transmission—Continued

Price List, Subject to Discount

Diameter	No. of Grooves	Price	Diameter	No. of Grooves	Price	Diameter	No. of Grooves	Price	Diameter	No. of Grooves	Price
62	22	$862.00	66	23	$ 990.00	70	24	$1110.00	74	25	$1244.00
	23	902.00		24	1034.00		25	1156.00	76	1	165.60
	24	942.00		25	1078.00	72	1	146.20		2	205.40
	25	963.00	68	1	128.80		2	182.40		3	245.80
64	1	113.80		2	162.00		3	219.60		4	287.00
	2	143.80		3	195.80		4	257.20		5	329.20
	3	174.40		4	230.20		5	296.20		6	372.20
	4	206.00		5	265.40		6	335.60		7	416.40
	5	238.00		6	301.60		7	373.60		8	461.20
	6	271.00		7	338.40		8	417.40		9	507.00
	7	304.60		8	376.60		9	459.60		10	554.00
	8	339.20		9	415.20		10	503.00		11	602.00
	9	374.00		10	454.80		11	547.00		12	651.00
	10	410.80		11	495.40		12	592.00		13	701.00
	11	447.80		12	536.00		13	639.00		14	753.00
	12	486.00		13	579.00		14	685.00		15	803.00
	13	529.00		14	624.00		15	732.00		16	853.00
	14	572.00		15	669.00		16	779.00		17	903.00
	15	614.00		16	714.00		17	826.00		18	953.00
	16	656.00		17	759.00		18	873.00		19	1003.00
	17	698.00		18	804.00		19	920.00		20	1053.00
	18	740.00		19	849.00		20	967.00		21	1103.00
	19	782.00		20	894.00		21	1014.00		22	1153.00
	20	824.00		21	939.00		22	1061.00		23	1203.00
	21	866.00		22	984.00		23	1108.00		24	1253.00
	22	908.00		23	1029.00		24	1155.00		25	1303.00
	23	950.00		24	1074.00		25	1202.00	78	1	176.40
	24	992.00		25	1119.00	74	1	155.80		2	218.00
	25	1034.00	70	1	137.20		2	193.60		3	260.20
66	1	133.00		2	171.80		3	232.40		4	303.40
	2	152.60		3	207.40		4	272.00		5	347.20
	3	184.80		4	243.40		5	312.40		6	392.40
	4	218.00		5	280.40		6	353.80		7	438.20
	5	251.80		6	318.00		7	396.00		8	485.20
	6	286.40		7	356.60		8	439.20		9	533.00
	7	321.60		8	396.20		9	483.40		10	582.00
	8	357.80		9	436.80		10	528.00		11	632.00
	9	395.00		10	478.00		11	572.00		12	683.00
	10	433.00		11	520.00		12	621.00		13	734.00
	11	471.80		12	563.00		13	669.00		14	786.00
	12	511.00		13	606.00		14	716.00		15	838.00
	13	552.00		14	650.00		15	764.00		16	890.00
	14	594.00		15	696.00		16	812.00		17	942.00
	15	638.00		16	742.00		17	860.00		18	994.00
	16	682.00		17	788.00		18	908.00		19	1046.00
	17	726.00		18	834.00		19	956.00		20	1098.00
	18	770.00		19	880.00		20	1004.00		21	1150.00
	19	814.00		20	926.00		21	1052.00		22	1202.00
	20	858.00		21	972.00		22	1100.00		23	1254.00
	21	902.00		22	1018.00		23	1148.00		24	1306.00
	22	946.00		23	1064.00		24	1196.00		25	1358.00

For telegraph code for Iron Sheaves, see page 519.

Discounts from the above list vary with the size of rope to be used. An extra charge is made for split sheaves, clamp hub sheaves and for unusually large bores.

Iron Sheaves for Manila Rope Transmission—Continued

Price List, Subject to Discount

Diameter	No. of Grooves	Price	Diameter	No. of Grooves	Price	Diameter	No. of Grooves	Price	Diameter	No. of Grooves	Price
80	1	$ 187.60	84	1	$ 212.00	88	1	$239.20	92	1	$ 269.60
	2	230.80		2	259.20		2	290.60		2	325.40
	3	275.20		3	307.20		3	343.20		3	382.40
	4	321.20		4	356.40		4	396.40		4	440.00
	5	366.20		5	406.60		5	450.00		5	499.00
	6	413.20		6	457.40		6	506.00		6	559.00
	7	461.20		7	509.00		7	562.00		7	620.00
	8	510.00		8	562.00		8	620.00		8	682.00
	9	560.00		9	616.00		9	679.00		9	746.00
	10	611.00		10	672.00		10	739.00		10	811.00
	11	663.00		11	728.00		11	800.00		11	877.00
	12	716.00		12	786.00		12	862.00		12	944.00
	13	771.00		13	845.00		13	925.00		13	1014.00
	14	826.00		14	906.00		14	988.00		14	1085.00
	15	881.00		15	966.00		15	1052.00		15	1157.00
	16	936.00		16	1026.00		16	1116.00		16	1229.00
	17	991.00		17	1086.00		17	1180.00		17	1301.00
	18	1046.00		18	1146.00		18	1244.00		18	1373.00
	19	1101.00		19	1206.00		19	1310.00		19	1445.00
	20	1156.00		20	1266.00		20	1374.00		20	1517.00
	21	1211.00		21	1326.00		21	1438.00		21	1589.00
	22	1266.00		22	1386.00		22	1502.00		22	1661.00
	23	1321.00		23	1446.00		23	1566.00		23	1733.00
	24	1376.00		24	1506.00		24	1630.00		24	1805.00
	25	1431.00		25	1566.00		25	1694.00		25	1877.00
82	1	199.40	86	1	225.40	90	1	254.00	94	1	285.80
	2	244.80		2	274.60		2	307.40		2	344.00
	3	290.80		3	324.80		3	362.20		3	403.20
	4	338.00		4	375.80		4	417.60		4	463.20
	5	386.20		5	428.00		5	474.20		5	524.00
	6	435.20		6	481.00		6	531.00		6	587.00
	7	485.00		7	535.00		7	590.00		7	650.00
	8	536.00		8	590.00		8	650.00		8	715.00
	9	588.00		9	647.00		9	711.00		9	781.00
	10	641.00		10	704.00		10	774.00		10	848.00
	11	695.00		11	763.00		11	837.00		11	917.00
	12	751.00		12	823.00		12	902.00		12	986.00
	13	807.00		13	884.00		13	969.00		13	1058.00
	14	864.00		14	946.00		14	1036.00		14	1131.00
	15	918.00		15	990.00		15	1104.00		15	1201.00
	16	976.00		16	1054.00		16	1172.00		16	1273.00
	17	1034.00		17	1118.00		17	1240.00		17	1345.00
	18	1092.00		18	1182.00		18	1308.00		18	1417.00
	19	1150.00		19	1246.00		19	1376.00		19	1489.00
	20	1208.00		20	1310.00		20	1444.00		20	1561.00
	21	1266.00		21	1374.00		21	1512.00		21	1633.00
	22	1324.00		22	1438.00		22	1580.00		22	1705.00
	23	1382.00		23	1502.00		23	1649.00		23	1797.00
	24	1440.00		24	1566.00		24	1717.00		24	1869.00
	25	1498.00		25	1630.00		25	1785.00		25	1941.00

For telegraph code for Iron Sheaves, see page 519.

Discounts from the above list vary with the size of rope to be used. An extra charge is made for split sheaves, clamp hub sheaves and for unusually large bores.

Iron Sheaves for Manila Rope Transmission—Continued

Price List, Subject to Discount

Diameter	No. of Grooves	Price	Diameter	No. of Grooves	Price	Diameter	No of Grooves	Price	Diameter	No. of Grooves	Price
96	1	$302.80	100	1	$342.00	104	1	$ 382.80	108	1	$ 422.00
	2	363.40		2	407.00		2	453.40		2	485.00
	3	424.80		3	473.00		3	526.00		3	569.00
	4	487.20		4	541.00		4	602.00		4	655.00
	5	551.00		5	610.00		5	681.00		5	744.00
	6	615.00		6	680.00		6	764.00		6	840.00
	7	681.00		7	751.00		7	849.00		7	937.00
	8	748.00		8	823.00		8	934.00		8	1037.00
	9	817.00		9	895.00		9	1025.00		9	1138.00
	10	887.00		10	972.00		10	1114.00		10	1243.00
	11	958.00		11	1048.00		11	1204.00		11	1349.00
	12	1030.00		12	1126.00		12	1294.00		12	1459.00
	13	1105.00		13	1205.00		13	1385.00		13	1569.00
	14	1180.00		14	1286.00		14	1479.00		14	1674.00
	15	1256.00		15	1366.00		15	1569.00		15	1780.00
	16	1332.00		16	1446.00		16	1659.00		16	1886.00
	17	1408.00		17	1530.00		17	1751.00		17	1992.00
	18	1484.00		18	1606.00		18	1841.00		18	2098.00
	19	1560.00		19	1691.00		19	1931.00		19	2204.00
	20	1636.00		20	1771.00		20	2021.00		20	2310.00
	21	1712.00		21	1851.00		21	2111.00		21	2416.00
	22	1788.00		22	1927.00		22	2201.00		22	2523.00
	23	1865.00		23	2011.00		23	2291.00		23	2629.00
	24	1941.00		24	2091.00		24	2381.00		24	2735.00
	25	2017.00		25	2171.00		25	2471.00		25	2841.00
98	1	320.80	102	1	361.20	106	1	405.00	110	1	445.00
	2	383.80		2	429.60		2	480.00		2	532.00
	3	447.60		3	498.00		3	559.00		3	628.00
	4	511.00		4	566.00		4	639.00		4	728.00
	5	578.00		5	639.00		5	720.00		5	831.00
	6	646.00		6	713.00		6	805.00		6	940.00
	7	714.00		7	789.00		7	893.00		7	1055.00
	8	784.00		8	866.00		8	982.00		8	1172.00
	9	855.00		9	945.00		9	1072.00		9	1292.00
	10	927.00		10	1026.00		10	1161.00		10	1415.00
	11	1001.00		11	1111.00		11	1256.00		11	1537.00
	12	1076.00		12	1194.00		12	1344.00		12	1661.00
	13	1152.00		13	1281.00		13	1431.00		13	1790.00
	14	1211.00		14	1371.00		14	1531.00		14	1920.00
	15	1291.00		15	1455.00		15	1631.00		15	2050.00
	16	1371.00		16	1541.00		16	1731.00		16	2180.00
	17	1451.00		17	1625.00		17	1831.00		17	2310.00
	18	1531.00		18	1709.00		18	1931.00		18	2440.00
	19	1611.00		19	1793.00		19	2031.00		19	2570.00
	20	1691.00		20	1877.00		20	2131.00		20	2700.00
	21	1771.00		21	1961.00		21	2231.00		21	2830.00
	22	1851.00		22	2045.00		22	2331.00		22	2960.00
	23	1931.00		23	2129.00		23	2430.00		23	3090.00
	24	2011.00		24	2213.00		24	2530.00		24	3200.00
	25	2091.00		25	2297.00		25	2630.00		25	3350.00

For telegraph code for Iron Sheaves, see page 519.

Discounts from the above list vary with the size of rope to be used. An extra charge is made for split sheaves, clamp hub sheaves and for unusually large bores.

Telegraph Code for Cast Iron Sheaves

Code applies to solid sheaves.
For split sheaves, add code word Aviary.
For sheaves with clamp hubs, add code word Avidious.

Diameter, Inches

12	Attarder	38	Attrayant	64	Auditress	90	Austerre
14	Atteler	40	Attribute	66	Augment	92	Austerity
16	Attendant	42	Attrition	68	Augustness	94	Austral
18	Attenuate	44	Atypic	70	Augurial	96	Authentic
20	Atterate	46	Auberge	72	Aularian	98	Author
22	Attestive	48	Auburn	74	Aumonier	100	Authoress
24	Attical	50	Auctionary	76	Auntie	102	Authorial
26	Attire	52	Audacious	78	Auricular	104	Authorship
28	Attiring	54	Audible	80	Auriferous	106	Autocrasy
30	Attitude	56	Audibility	82	Aurist	108	Autocratic
32	Attorney	58	Audience	84	Auspice	110	Autodyne
34	Attract	60	Audit	86	Auspicious	...	.....
36	Attractive	62	Auditory	88	Aussitot	...	.....

Number of Grooves

1	Autograph	8	Autrement	15	Avaler	22	Averment
2	Automaton	9	Autumnal	16	Avant	23	Averseness
3	Autonomea	10	Auxiliar	17	Avarice	24	Aversive
4	Autonomy	11	Availably	18	Avaricious	25	Avertir
5	Autopsical	12	Availment	19	Avauntance	...	.....
6	Autopsy	13	Avalaison	20	Avenger	...	.....
7	Autotype	14	Avalanche	21	Avenue	...	.....

Size of Rope, Inches

5/8	Avicula	1	Avidores	1 3/8	Avinones	2	Avitelado
3/4	Avidamente	1 1/8	Avilantez	1 1/2	Avironnier	2 1/4	Avocamento
7/8	Avidissimo	1 1/4	Aviltacion	1 3/4	Avispaba	2 1/2	Avocaretur

Bore, Inches

15/16	Atocalta	2	Atontado	3 1/8	Atractyle	4 3/16	Atrocho
1	Atochada	2 1/8	Atony	3 3/16	Atrafagar	4 1/4	Atrocis
1 1/8	Atochados	2 3/16	Atopir	3 1/4	Atrafago	4 5/16	Atrofias
1 3/16	Atocharon	2 1/4	Atorcoar	3 5/16	Atraido	4 3/8	Atrofico
1 1/4	Atocho	2 5/16	Atornillo	3 3/8	Atraiga	4 7/16	Atronar
1 5/16	Atocia	2 3/8	Atortalo	3 7/16	Atraillo	4 1/2	Atrorum
1 3/8	Atocion	2 7/16	Atosigo	3 1/2	Atrajera	4 9/16	Atrouba
1 7/16	Atojinar	2 1/2	Atours	3 9/16	Atrapar	4 5/8	Atrous
1 1/2	Atojino	2 9/16	Atque	3 5/8	Atrapo	4 11/16	Atrusca
1 9/16	Atolaires	2 5/8	Atquin	3 11/16	Atrelar	4 3/4	Atrype
1 5/8	Atoll	2 11/16	Atrabile	3 3/4	Atrever	4 13/16	Attaball
1 11/16	Atonable	2 3/4	Atrabunt	3 13/16	Atrevido	4 7/8	Attact
1 3/4	Atondar	2 13/16	Atracado	3 7/8	Atrichio	4 15/16	Attaji
1 13/16	Atonica	2 7/8	Atrachye	3 15/16	Atriolis	5	Attalos
1 7/8	Atonicos	2 15/16	Atractes	4	Atrios	...	.....
1 15/16	Atonique	3	Atractriz	4 1/8	Atroce	...	.....

Horizontal Tension Carriages

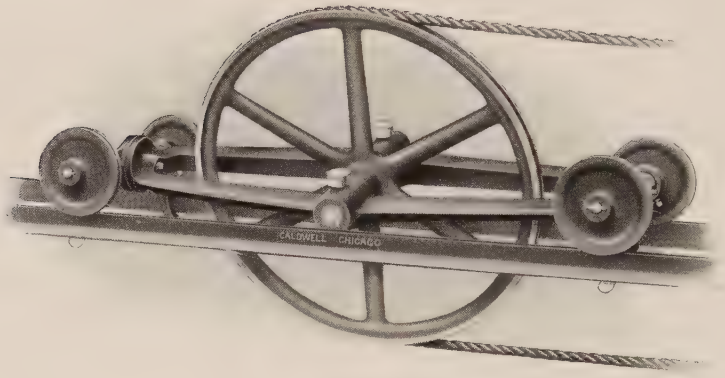


Fig. 45464. (*Azalea*)

Horizontal Double Track Adjustable Frame Tension Carriage with Angle Iron Track

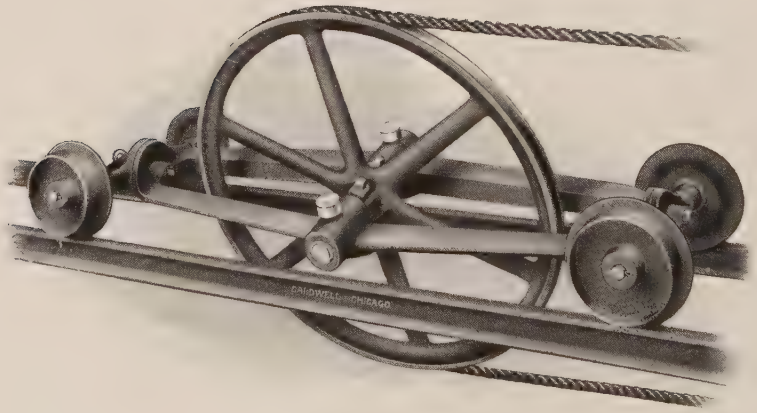


Fig. 45465. (*Larguedas*)

Horizontal Double Track Adjustable Frame Tension Carriage with I-Beam Tracks

Horizontal Tension Carriages

The prices below cover the carriage with adjustable frame and tension sheave and with wheels for either angle iron or I-beam tracks. Grooved wheels for angle iron track will be furnished unless otherwise specified.

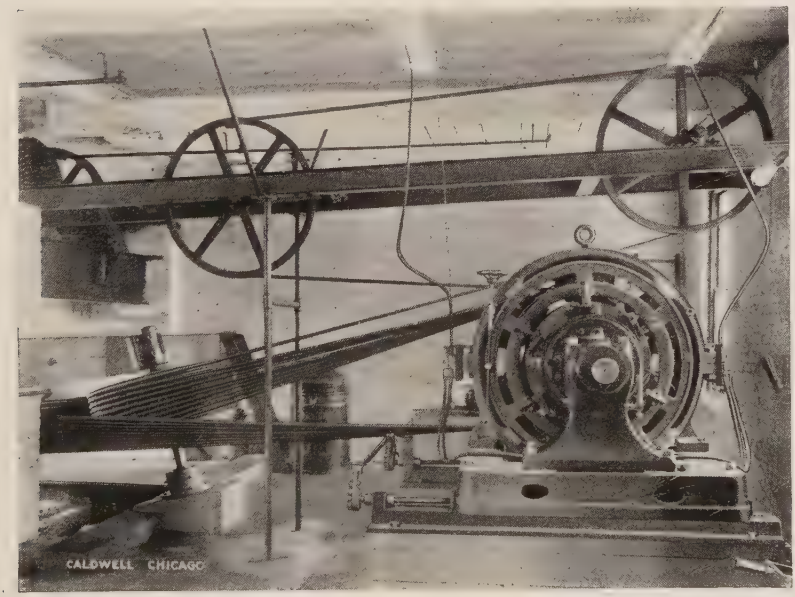
Track, track hangers, weights, weight rods and other fittings are not included. For price list of fittings, see pages 523 and 528.

Price List, Subject to Discount

Diameter of Sheave, Inches	CODE WORD for Sheave Diameter	DIAMETER OF ROPE, INCHES AND CODE WORD FOR DIAMETER OF ROPE							
		¾ Aftap	⅞ Aghori	1 Agidae	1⅛ Agobio	1¼ Agoge	1½ Agoing	1¾ Agolpo	2 Agomar
24	Aggrado	$32.00	$32.00	$37.00	$40.00	$46.00	.....	.....	.....
30	Aggraffo	38.00	38.00	45.00	48.00	55.00	.....	.....	.....
36	Aggrana	43.00	43.00	53.00	56.00	65.00	$71.00	.....	.....
42	Aggrated	.....	55.00	65.00	68.00	77.00	83.00	.....	.....
48	Aggraves	.....	.....	75.00	78.00	87.00	93.00	110.00	.....
54	Laqueux	.....	.....	.....	85.00	100.00	108.00	120.00	130.00
60	Laqueurs	.....	.....	.....	.....	105.00	115.00	130.00	140.00

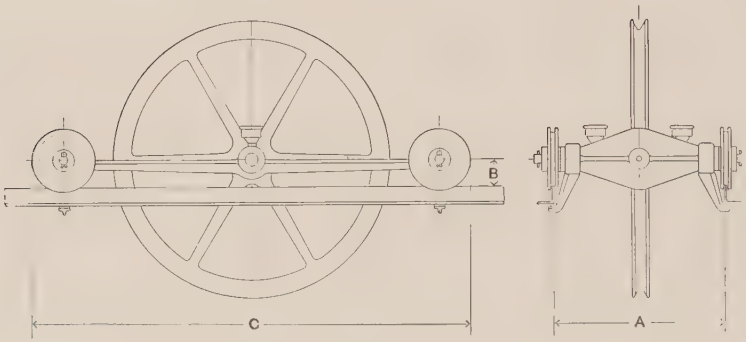
In telegraphing use code word for style under figure on opposite page and follow by code word for diameter of sheave and diameter of rope as given above.

For dimensions of Horizontal Tension Carriages, see page 522.



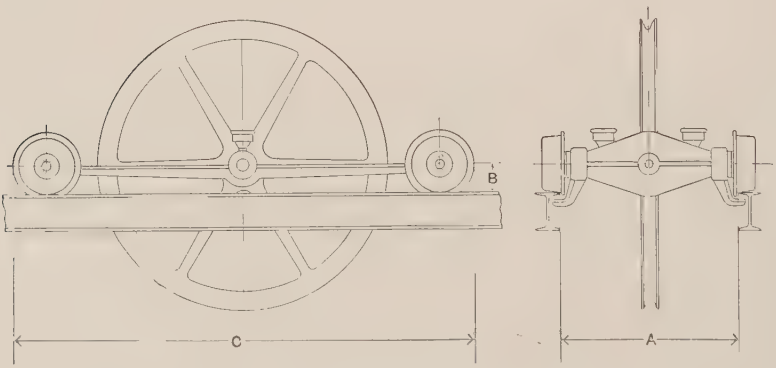
American System Drive, Water Wheel to Generator

Dimensions of Horizontal Tension Carriages



For Angle Iron Track

Size of Sheaves, Inches	Frame No.	A Inches	B Inches	C Inches
20–24	0	18¼	2½	39¼
26–30	1	18¾	3	49
32–44	2	20⅜	4	63½
46–50	3	25½	5	71½
52–60	4	25½	5	84½



For I-Beam Track

Size of Sheaves, Inches	Frame No.	A Inches	B Inches	C Inches
20–24	0	17⅝	2½	39¾
26–30	1	18⅝	3	49¼
32–44	2	20⅛	4	63⅝
46–50	3	25¼	5	72¼
52–60	4	25¼	5	85¼

Track Hangers for Horizontal Tension Carriages

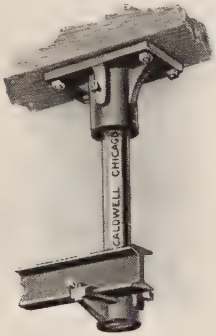


Fig. 45466. (*Babillage*)
Drop Hanger, Style A

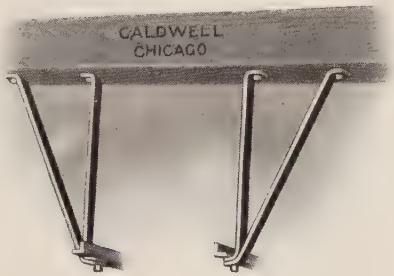


Fig. 45467. (*Babryrsa*)
Drop Hanger, Style B

Price List, Subject to Discount

Drop, Inches	STYLE A		STYLE B	
	Price Each	CODE WORD	Price Each	CODE WORD
12	$10.50	Luchtweger	$ 9.00	Lucibilium
18	11.25	Luchtzeil	9.60	Lucida
24	12.00	Luciamos	10.20	Lucidandos
30	12.80	Lucianus	10.80	Lucidandum
36	13.65	Lucibile	11.40	Lucidantem
42	14.50	Lucibilis	12.00	Lucidarent

Wall Brackets for Horizontal Tension Carriage Track

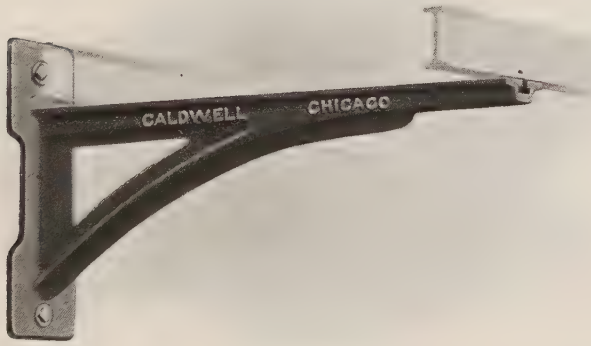


Fig. 45468. (*Callosetta*)

Price List, Subject to Discount

Projection from Wall, Inches	For use with Sheaves, Diameter	Price Each	CODE WORD
24	20-24	$22.00	Lucidatura
26	26-30	24.00	Lucidavero
30	32-44	42.50	Lucidement
36	46-60	50.00	Lucidez

Heavy Horizontal Tension Carriages

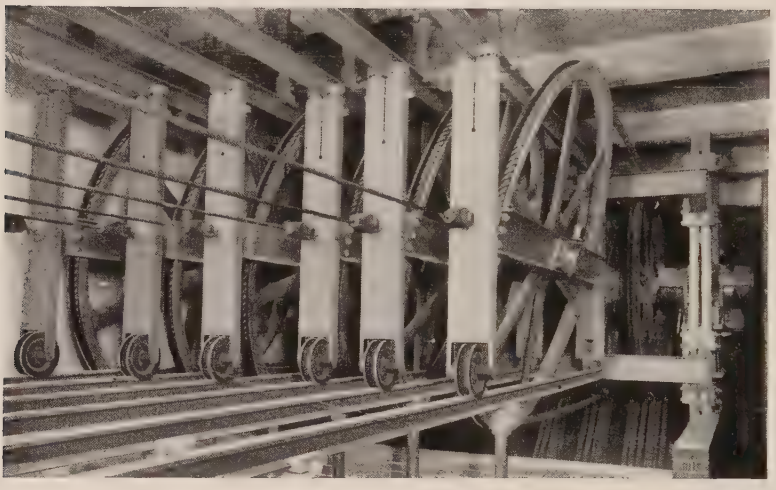
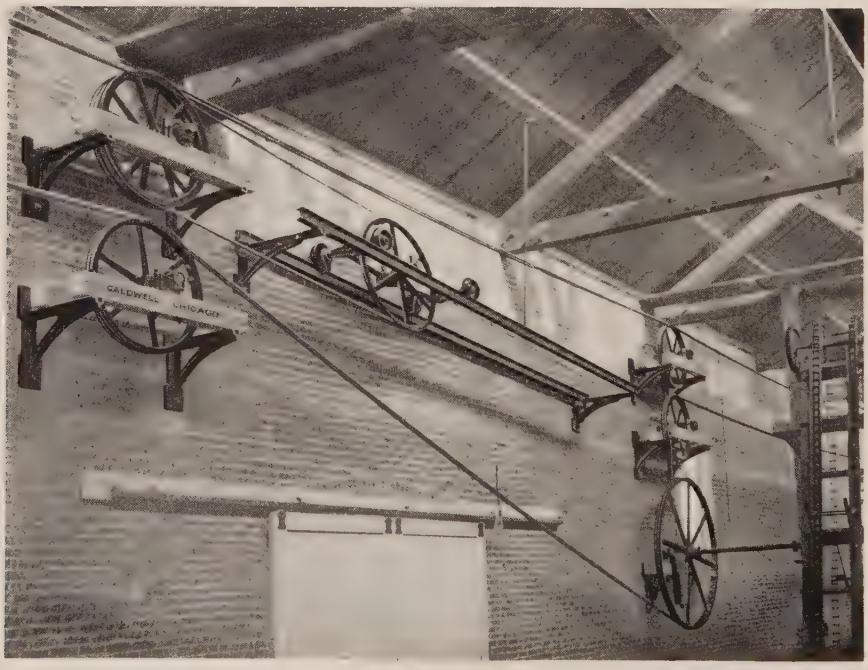


Fig. 45469. (*Larignos*)

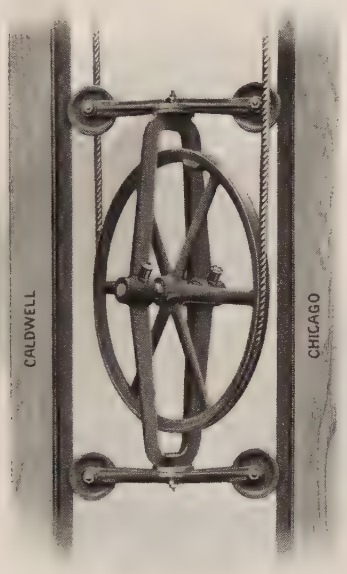
This type of special heavy tension carriage can be furnished for large drives and where the service is unusually severe.

Horizontal Tension Carriage on Wall Brackets



Price list of Wall Brackets on page 523.

Vertical Double-Track Adjustable-Frame Tension Carriages



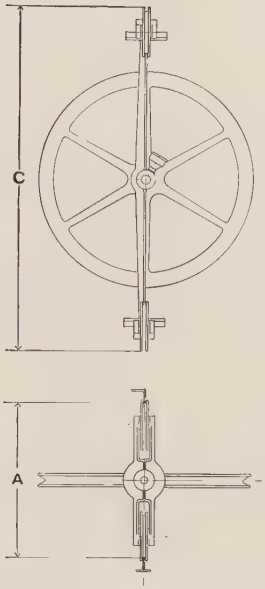


Fig. 45470. (*Babrios*)

The price list below covers the carriage with adjustable frame and tension sheave but does not include tracks nor weight rod and weights. The tension weights are generally not necessary as the carriage is usually heavy enough without extra weights.

For price list of fittings, see page 528.

Price List, Subject to Discount

Diameter of Sheave, Inches	CODE WORD for Sheave Diameter	DIAMETER OF ROPE, INCHES AND CODE WORD FOR ROPE DIAMETER								A	C
		¾ Acker	⅞ Acigne	1 Acoup	1⅛ Adobe	1¼ Afford	1½ Affrap	1¾ Aflow	2 Afoam	Inches	Inches
24	Afluyo	$32.00	$32.00	$37.00	$40.00	$46.00	.....	.....	.....	21	39
30	Afodias	38.00	38.00	45.00	48.00	55.00	.....	.....	.....	22⅛	49
36	Afodio	43.00	43.00	53.00	56.00	65.00	$71.00	.....	.....	30	63½
42	Afofado	.....	55.00	65.00	68.00	77.00	83.00	.....	.....	30	63½
48	Afofais	.....	.....	75.00	78.00	87.00	93.00	110.00	.....	34	71¾
54	Afronding	.....	.....	.....	85.00	100.00	108.00	120.00	130.00	34	83¼
60	Afrontar	.....	.....	.....	.....	105.00	115.00	130.00	140.00	34	83¼

In telegraphing use code word for size of sheave and follow by code word for size of rope.

Hanging Tension Carriages

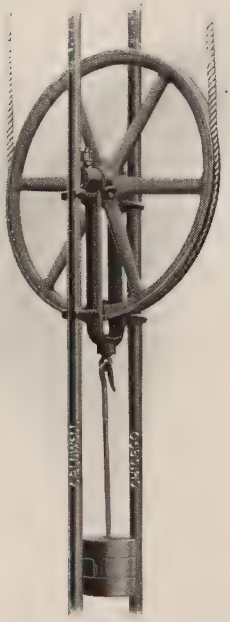


Fig. 45471. (*Babosos*)
With Guide Fingers for Pipe Tracks

Fig. 45472. (*Avidily*)
Without Guide Fingers

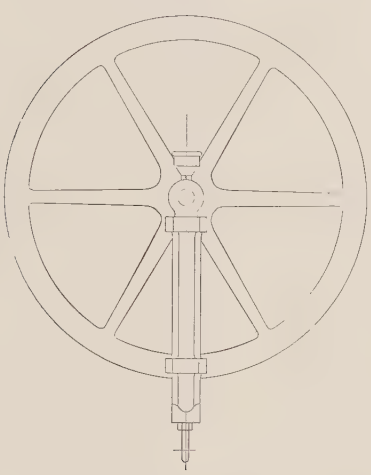
The price list below includes the yoke frame, with or without guide fingers, and with sheave, but does not include pipe track, weight rod or weights. For dimensions of Hanging Tension Carriages see opposite page. For price list of fittings see page 528.

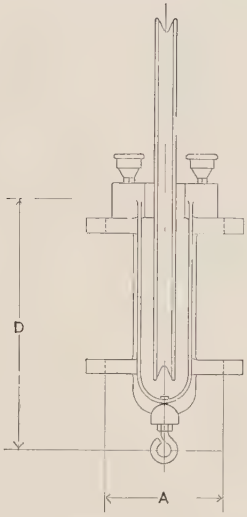
Price List, Subject to Discount

Diameter of Sheave, Inches	CODE WORD for Sheave Diameter	DIAMETER OF ROPE, INCHES AND CODE WORD FOR ROPE DIAMETER					
		¾ Abeel	⅞ Abete	1 Abysm	1⅛ Abzug	1¼ Accru	1½ Achar
24	Acimita	$24.00	$24.00	$26.00	$29.00	$29.00	..
30	Acinage	27.00	27.00	29.00	33.00	33.00	.....
36	Acineta	31.00	31.00	34.00	39.00	39.00	$45.00

In telegraphing use code word for style under cut above and follow by code words for diameter of sheave and size of rope.

Dimensions of Hanging Tension Carriages





Size of Sheaves, Inches	Frame No.	A Inches	D Inches
20-30	0	10	22
22-38	1	10	28¼

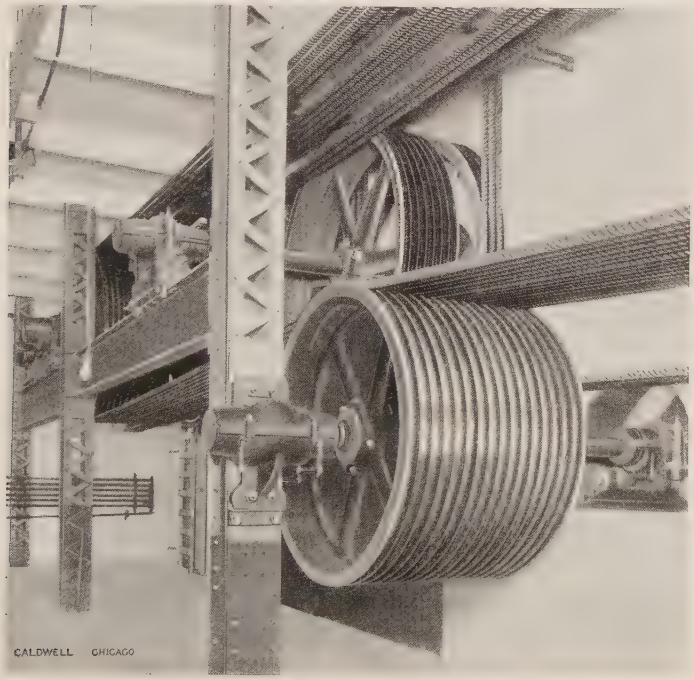


Fig. 45473. (*Larikshout*). American System Drive

Fittings for Tension Carriages

Fig. 45474. (*Larderers*)

Price List, Subject to Discount

Diameter of Sheave, Inches	Eye Bolts, Each	Clips, Each	Angle Iron Track, Double, Per Foot	XX Heavy Pipe Track, Double, Per Foot	Pull-Back Sheaves, Each	Pull-Back Rope, Per Foot
24	$0.65	$0.45	$0.60	$0.65	$2.25	$0.11
30	.90	.45	.75	.65	2.25	.11
36	.90	.45	1.10	1.00	2.25	.11
42	.90	.45	1.10	1.10	5.00	.11
48	.90	.45	1.30	1.30	5.00	.11
54	.90	.45	1.30	1.30	5.00	.11
60	.90	.45	1.30	1.30	5.00	.11

Weights, and Weight Rods

Diameter of Rope, Inches	Weights Generally Required, Pounds	Weights, Per Pound	Weight Rods, Each
¾	110	$0.04½	$1.40
⅞	150	.04½	2.00
1	200	.04½	2.50
1⅛	250	.04½	3.00
1¼	300	.04½	3.50
1½	450	.04½	4.00
1¾	600	.04½	4.50
2	750	.04½	5.00

The above price lists cover fittings that are frequently required with tension carriages, but are not included in list prices given on the preceding pages.

Manila Rope for Power Transmission

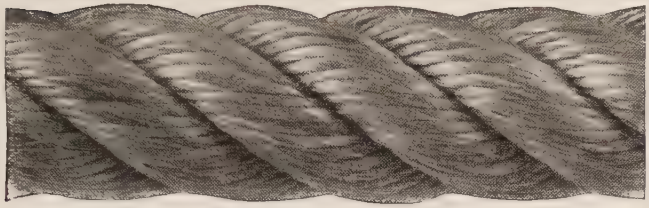


Fig. 45475. (*Lardellare*)
Standard Four Strand Rope

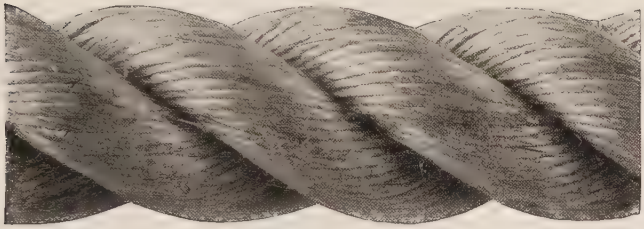


Fig. 45476. (*Lardellava*)
Special Three Strand Rope

The rope supplied by us for power transmission purposes is of best quality, and a brand that has stood the test of many years' steady service. Weights given are only approximate.

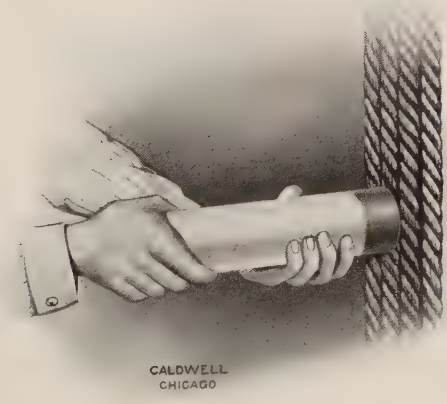
Four strand rope will be furnished unless otherwise specified.

For instructions for splicing, see pages 508 to 511.

Price, per pound, subject to discount.....$0.80

Weight of Manila Transmission Rope

Diameter, Inches	Weight per Foot, Lbs.	CODE WORD	Diameter, Inches	Weight per Foot, Lbs.	CODE WORD
3/4	.20	Calculorum	1 3/8	.65	Cancaro
7/8	.26	Canalicius	1 1/2	.77	Cancanum
1	.34	Canapale	1 3/4	1.04	Canchitra
1 1/8	.43	Canarroya	2	1.36	Cancrenoso
1 1/4	.53	Canavaccio			



Dressing for Manila Transmission Rope

Especially desirable for out-of-door drives. It is molded into sticks of three pounds each, of convenient form, and easily applied.

Price, each, subject to discount.....$3.00

(Code Word, *Babyism*)

Wire Rope Transmissions

Wire Rope Transmissions consist of an endless wire rope running in large rubber or wood filled sheaves. Such a system should not be used for shorter centers than 50 feet, and may be used without supporting idler sheaves up to 300 foot centers. For greater centers guide sheaves should be used about every 300 feet or less, or double grooved sheaves may be used, spaced every 300 feet, dividing the rope into endless sections about 600 feet long.

The standard type of rope for transmission service is a 6 strand. 7 wire, hemp core rope, generally of crucible cast steel. For heavier service the more expensive ropes may be used. Where the centers are short, or where for any reason large sheaves cannot be used, a 6 strand, 19 wire hoisting rope may be used, as this is more flexible, although, as the individual wires are smaller, the rope may not wear as long.

To insure successful operation, the following points must be observed:

1. Sheaves must be bored true and be set true on the shaft.
2. Shafts must be exactly parallel.
3. Sheaves must be exactly in line.

The lower rope should be the tight one, so that as great an angle of lap on the sheaves as possible may be obtained. The sag of the rope should not greatly exceed one foot per hundred feet centers on the tight side or two feet per hundred on the loose side. The rope should be tight when put on, as the natural stretch will quickly bring it to the proper sag.

In ordering endless rope, the exact length of the rope or the exact dimensions of the system should be given, including the centers of the shafts and the diameter of the sheaves at the bottom of the grooves.

If the rope is to be spliced in place, an allowance of 20 feet should be made for the splice.

The table on page 531 gives the maximum horse-power which may be transmitted using rubber filled sheaves and six-strand seven-wire crucible cast steel transmission rope. The table is based upon using sheaves as large as, or larger than the minimum diameter as given in the table on the opposite page. Wherever possible it is well to use sheaves larger than the minimum diameters given, in order to assure long life of the rope.

If extra strong cast steel rope or plow steel rope is used, somewhat greater horse-powers may be transmitted, although the increase will not be as great in proportion as the added strength of the rope, due to the fact that the rope will slip in the groove if too great tension is put upon it.

Horse-power of Crucible Cast Steel Wire Rope Transmissions Using Rubber Filled Sheaves

Diameter of Rope, Inches	Velocity of Rope—Feet per Minute							
	600	1200	1800	2400	3000	3600	4200	4800
3/8	10	19	28	38	47	56	64	73
7/16	13	26	38	51	63	75	88	99
1/2	17	34	51	67	83	99	115	130
9/16	22	43	65	86	106	128	147	167
5/8	27	53	79	104	130	155	179	203
11/16	32	63	95	126	157	186	217	245
3/4	38	76	103	150	186	223	.....	.....
7/8	52	104	156	206	.....	.....	.....	.....
1	68	135	202	.....	.....	.....	.....	.....

Dimensions and Safe Loads for Wire Rope

Transmission or Haulage Rope, Six Strands, Seven Wires to the Strand

Diam., Inches	Iron		Crucible Cast Steel		Extra Strong Crucible Cast Steel		Plow Steel	
	Working Load in 2,000-lb., Tons	Diameter Smallest Sheave or Drum, Feet	Working Load in 2,000-lb., Tons	Diameter Smallest Sheave or Drum, Feet	Working Load in 2,000-lb., Tons	Diameter Smallest Sheave or Drum, Feet	Working Load in 2,000-lb., Tons	Diameter Smallest Sheave or Drum, Feet
1 1/2	6.4	16	12.6	11	14.6	11	16.4	11
1 3/8	5.6	15	10.6	10	12.6	10	14.4	10
1 1/4	4.6	13	9.2	9	10.8	9	12	9
1 1/8	3.8	12	7.4	8	8.6	8	9.4	8
1	3	10.5	6.2	7	7	7	7.6	7
7/8	2.4	9	4.8	6	5.6	6	6.2	6
3/4	1.7	7.5	3.7	5	4.2	5	4.6	5
11/16	1.5	7.25	3.1	4.75	3.3	4.75	3.6	4.75
5/8	1.2	7	2.6	4.5	2.9	4.5	3.2	4.5
9/16	.96	6	2	4	2.2	4	2 4	4
1/2	.74	5.5	1.5	3.5	1.8	3.5	2	3.5
7/16	.52	4.5	1.1	3	1.25	3	1.4	3
3/8	.44	4	.92	2.75	1.05	2.75	1.2	2.75

Hoisting Rope, Six Strands, Nineteen Wires to the Strand

Diam., Inches	Iron		Crucible Cast Steel		Extra Strong Crucible Cast Steel		Plow Steel	
	Working Load in 2,000-lb., Tons	Diameter Smallest Sheave or Drum, Feet	Working Load in 2,000-lb., Tons	Diameter Smallest Sheave or Drum, Feet	Working Load in 2,000-lb., Tons	Diameter Smallest Sheave or Drum, Feet	Working Load in 2,000-lb , Tons	Diameter Smallest Sheave or Drum, Feet
1 1/2	6.6	9	12.8	6	14.6	6	16	6
1 3/8	5.6	8.5	11.2	5.5	12.8	5.5	14	5.5
1 1/4	4.56	7.5	9.4	5	10.6	5	12	5
1 1/8	3.72	7	7.6	4.5	8.6	4.5	9.4	4.5
1	2.90	6	6	4	6.8	4	8.6	4
7/8	2.36	5.5	4.6	3.5	5.2	3.5	5.8	3.5
3/4	1.70	4.5	3.5	3	4.04	3	4.6	3
5/8	1.20	4	2.5	2.5	2.8	2.5	3.1	2.5
9/16	.94	3.5	2	2.25	2.24	2.25	2.4	2.25
1/2	.78	3	1.68	2	1.84	2	2	2
7/16	.58	2.75	1.30	1.75	1.55	1.75	1.6	1.75
3/8	.48	2.25	.96	1.50	1.06	1.5	1.15	1.50

Rubber Filled Sheaves for Wire Rope Transmissions

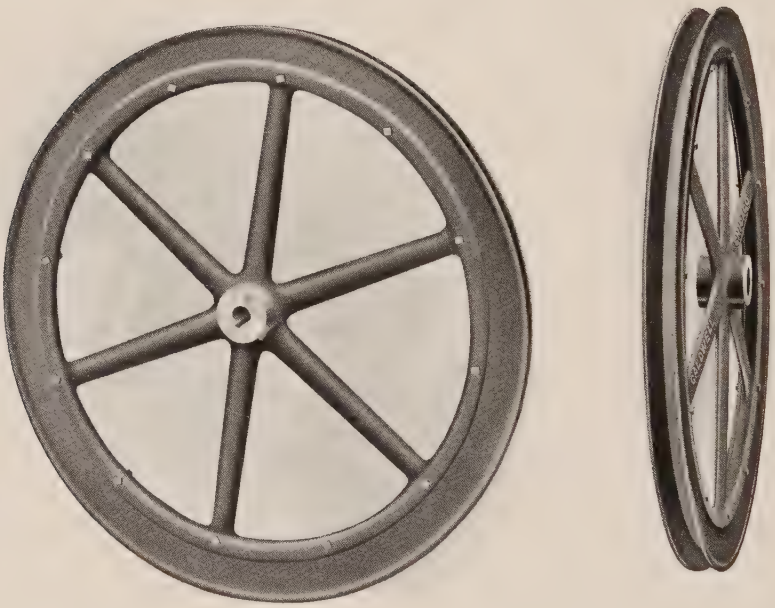


Fig. 45477. (*Backward*)

This list applies to sheaves with suitable rubber fillings for use with ropes ⅜ inch to 1 inch diameter. If larger ropes are to be used, special prices will be quoted on application.

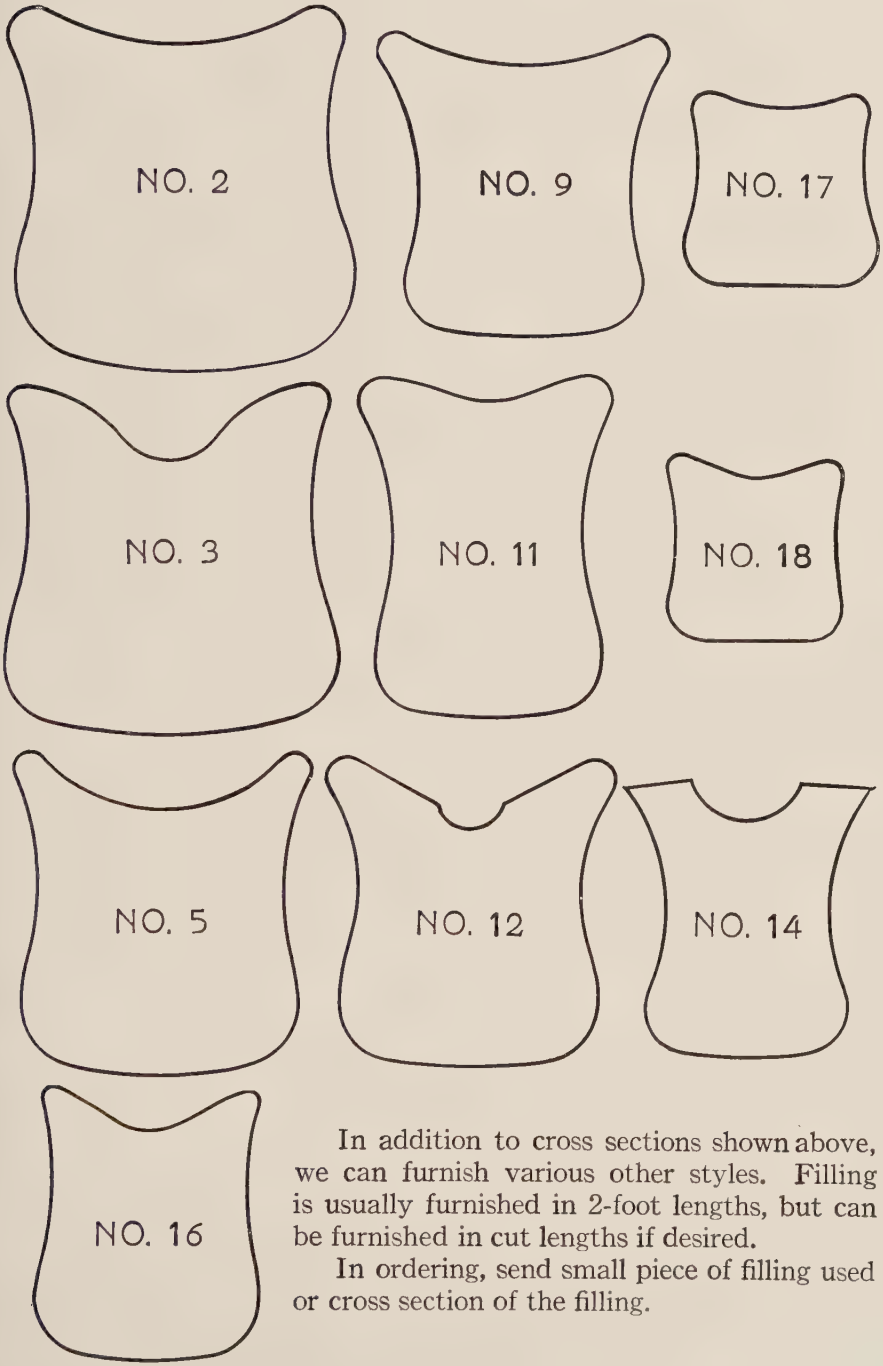
For horse-power of wire rope transmissions, see page 531.

For price list of wire rope, see page 534.

Price List, Subject to Discount

Diameter of Sheave, Inches	Price	CODE WORD	Diameter of Sheave, Inches	Price	CODE WORD
24	$ 30.00	Baconian	72	$128.00	Bagatelle
30	40.00	Badge	84	160.00	Bagman
36	50.00	Badgeless	96	200.00	Bagpipe
42	56.00	Badigeon	108	280.00 Split	Bague
48	68.00	Badinage	120	400.00 Split	Bahutier
54	84.00	Baffler	132	500.00 Split	Baigner
60	100.00	Bafouer	144	560.00 Split	Bailiff

Rubber Filling for Wire-Rope Sheaves



In addition to cross sections shown above, we can furnish various other styles. Filling is usually furnished in 2-foot lengths, but can be furnished in cut lengths if desired.

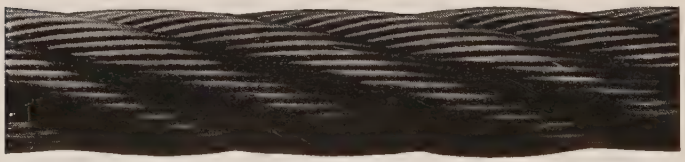
In ordering, send small piece of filling used or cross section of the filling.

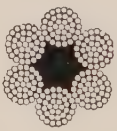
Wire Rope—Power Transmission and Other Purposes

Prices per Foot, Subject to Discount

Transmission Rope, Six Strands, Seven Wires to the Strand, Hemp Core

Diameter, Inches	CODE WORD for Diameter	Iron (Chevisance)	Crucible Cast Steel (Chernibos)	Extra Strong Crucible Cast Steel (Chetone)	Plow Steel (Chevillage)	Extra Strong Plow Steel (Largueza)
1½	Chevrotant	$0.51	$0.60	$0.75	$0.90	$1.05
1⅜	Chiamasti	.43	.51	.64	.76	.88
1¼	Chiappato	.36	.43	.53	.62	.72
1⅛	Chiavarda	.30	.36	.44	.51	.58
1	Chiavatura	.24	.29	.35	.41	.48
⅞	Chibalote	.18½	.22½	.27	.32	.37
¾	Chibanca	.14	.17	.20	.24½	.28½
11/16	Chibetero	.12	.14½	.17	.21	.24½
⅝	Chibitil	.10	.12	.14¼	.17½	.20½
9/16	Chiconera	.08¼	.10	.12	.14½	.17
½	Chidrian	.06½	.08	.09½	.11½	.13½
7/16	Chiesastra	.05½	.06½	.07½	.09	.11½
⅜	Chiflabais	.04½	.05½	.06	.06¾	.08¾
5/16	Chifrado	.03¾	.04½	.05½	.06	.....
9/32	Chiliarch	.03¼	.04	.05	.05½	.....



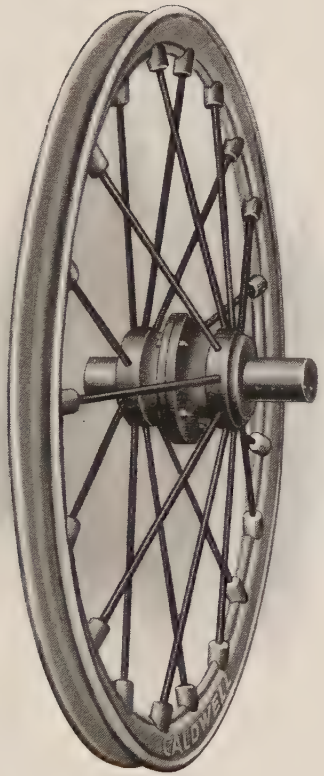


Hoisting Rope, Six Strands, Nineteen Wires to the Strand, Hemp Core

Diameter, Inches	CODE WORD for Diameter	Iron (Chapurrar)	Crucible Cast Steel (Chapintia)	Extra Strong Crucible Cast Steel (Chapodador)	Plow Steel (Chapuceo)	Extra Strong Plow Steel (Larigni)
1½	Chartarius	$0.57	$0.66	$0.80	$0.93	$1.10
1⅜	Chataigne	.49	.56	.68	.79	.90
1¼	Chatonado	.40	.46	.56	.65	.75
1⅛	Chauvinism	.33	.38	.46	.54	.62
1	Chavirames	.26	.31	.37	.43	.50
⅞	Chelidonio	.20	.24	.29	.34	.39
¾	Cheliform	.16	.19	.22	.26	.31
⅝	Chelonitis	.12	.14	.16½	.19	.22½
9/16	Chelydro	.10	.12	.14	.16	.19
½	Chenalopex	.08½	.11	.12½	.14	.17
7/16	Chenedolle	.07½	.10	.11½	.13	.15½
⅜	Chenepan	.07	.09½	.11	.12½	.14½
5/16	Chenevotte	.06¾	.09¼	.10¾	.12¼	.13½
¼	Cheriscono	.06½	.09	.10½	.12	.13

Hoisting Sheaves with Steel Spokes

"Bicycle Type"



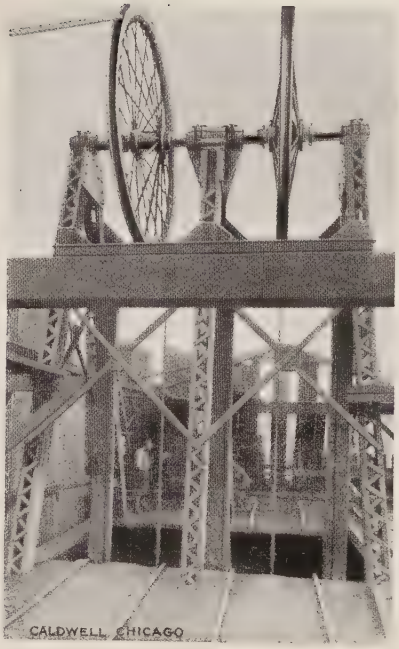


Fig. 45478. (*Landkunde*)

These sheaves are made with a special hub, split at right angles to the axis of the shaft, and drawn together with bolts. This insures equal tension on all the spokes. The rim is turned, and is cast iron.

This type of sheave is used as the head sheave at mine shafts, and for other heavy hoisting work.

Price quoted on application.

Detachable Link Belting

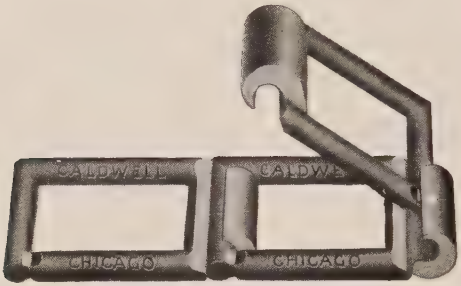


Fig. 45479. (*Blameful*)

Detachable Link Belting is a well known means of driving many kinds of machinery. It furnishes a positive drive, which can be used for greater centers than would be possible with spur gears. While it can not be run at as high speeds as belting, at the lower speeds, up to 700 feet per minute, it is more satisfactory in many cases, as it will not slip, is not affected by heat or moisture, and does not have to be tightened on short drives.

On pages 538 to 551 are shown cuts of the standard sizes of Link Belting, most of the cuts being full size, and useful for determining the number of old chain of which the size is not known.

Attachment links are shown on pages 552 to 555. Price list of chain and attachments is on pages 556 to 559.

Sprocket wheels for link belting are shown on pages 560 to 564.

We carry a very complete stock of the standard sizes of link belting and the commonly used attachments, also a large stock of sprocket castings. We are thus able to fill orders very promptly.

Suggestions for the Use of Link Belting

Always lubricate link belting, using a heavy oil or grease. Where the chain is exposed to much grit and dirt, plumbago or graphite grease is found the most suitable.

Link belting should be run with the back of the coupling hook to the wheel. Where chains are used only as driving chains, run the hook end of the link first. For elevator and conveyor chains, it is considered better practice to run the link with the bar end first, except in cases where the material handled is of a gritty character, and might get into the chain joint. In this case run the hook end first.

Link belting should be run slightly looser than is customary with flat belts. The chain should only be tight enough so that there is no undesirable flapping or jumping.

Suggestions for the Use of Link Belting—Continued

Do not expect Link Belting or the other types of chain in this catalog to carry, as a working load, the "Average Ultimate Strength" as given in the price list. The Average Ultimate Strength is the average breaking load of the chain, as determined through a series of tests. The working load should be from ⅙ to 1/20 of the average ultimate strength, depending on the speed at which the chain is to run, and the character of the service.

For chains used as drive chains, we recommend that the working load shall not exceed the following:

Speed of Chain Feet per Minute	Divide Average Ultimate Strength by the following factor
200 feet and under	6
200 to 300	8
300 to 400	10
400 to 500	12
500 to 600	16
600 to 700	20

Example: The average ultimate strength of No. 88 chain is 5,750 pounds. Its working load at 200 feet per minute should not exceed 960 pounds—at 400 feet per minute, 575 pounds—at 700 feet per minute, 287 pounds.

Where the load to be transmitted is irregular or subject to shock, a still further reduction in the working load should be made. With elevators carrying material which is liable to choke up, allowance must be made for this fact in designing.

Approximate Horse-power of Detachable Link Belting

The following table of approximate horse-power is figured on the basis above, and should be modified for unusual conditions, such as loads subject to shock, etc.

Size	Speed, in Feet per Minute					
	200	300	400	500	600	700
25	.7	.79	.85	.88	.79	.74
32	1.10	1.25	1.33	1.39	1.25	1.17
33	1.2	1.35	1.44	1.50	1.35	1.26
34	1.31	1.48	1.58	1.64	1.48	1.38
35	1.21	1.36	1.45	1.52	1.36	1.27
42	1.51	1.70	1.82	1.89	1.70	1.59
45	1.61	1.82	1.94	2.02	1.82	1.69
51	1.91	2.16	2.30	2.39	2.16	2.01
52	2.32	2.61	2.78	2.90	2.61	2.44
55	2.22	2.53	2.66	2.77	2.53	2.33
57	2.82	3.18	3.39	3.53	3.18	2.97
62	3.10	3.52	3.76	3.91	3.52	3.29
66	2.62	2.95	3.15	3.28	2.95	2.76
67	3.33	3.75	4.00	4.17	3.75	3.50
75	4.04	4.54	4.85	5.04	4.54	4.24
77	3.64	4.09	4.36	4 54	4.09	3.82
88	5.82	6.53	6.97	7.26	6.53	6.09
103	9.69	10.9	11.64	12.12	10.9	10.18
114	11.11	12.5	13.33	13.89	12.5	11.66
124	12.82	14.43	15.39	16.03	14.43	13.47

To figure the horse-power of chains not given in the above table divide the ultimate strength given in the price list of the chain used by the factor of safety at the speed at which the chain is to be run (see above). This will give the proper working load. Multiply the working load by the speed of the chain in feet per minute and divide by 33,000—the result will be the maximum horse-power which the chain will transmit.

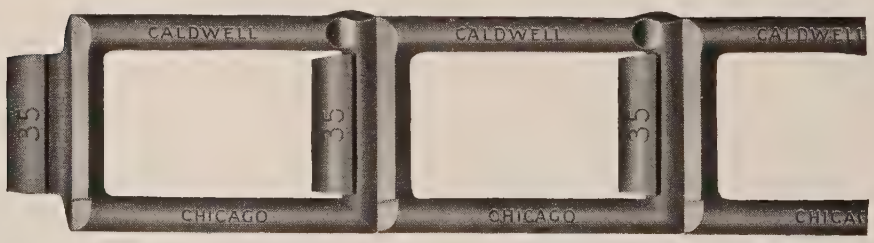
Standard Detachable Link Belting

No. 25. Approximate links in 10 ft., 133. Average ultimate strength, 700 lbs.

No. 32. Approximate links in 10 ft., 104. Average ultimate strength, 1100 lbs.

No. 33. Approximate links in 10 ft., 86. Average ultimate strength, 1190 lbs.

No. 34. Approximate links in 10 ft., 86. Average ultimate strength, 1300 lbs.



No. 35. Approximate links in 10 ft., 74. Average ultimate strength, 1200 lbs.

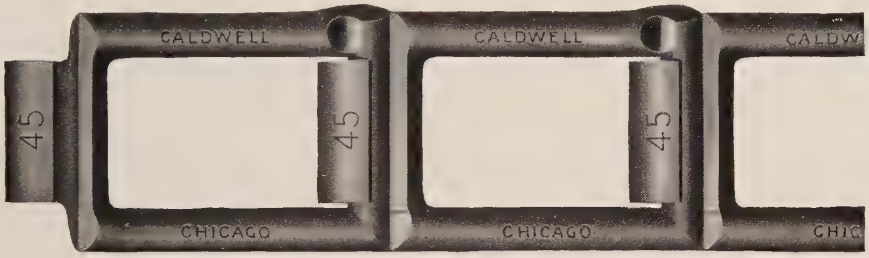
The above cuts are full size.

For prices, and list of attachments for each chain, see pages 556 to 559.

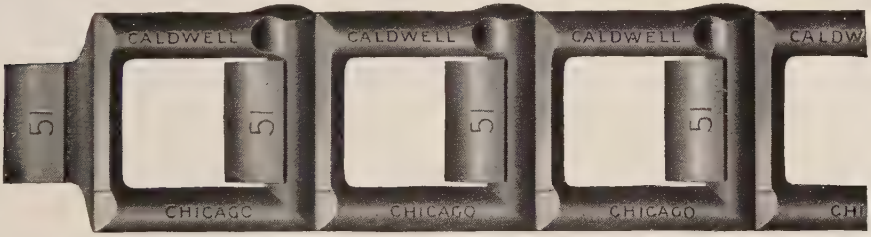
For price list of sprocket wheels, see pages 560 to 564.

Standard Detachable Link Belting—Continued

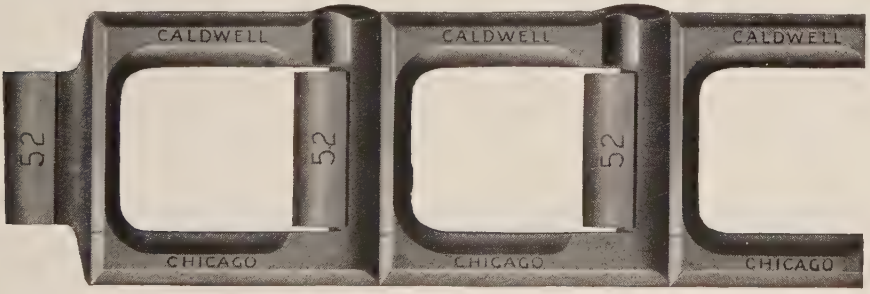
No. 42. Approximate links in 10 ft., 88. Average ultimate strength, 1500 lbs.



No. 45. Approximate links in 10 ft., 74. Average ultimate strength, 1600 lbs.



No. 51. Approximate links in 10 ft., 104. Average ultimate strength, 1900 lbs.



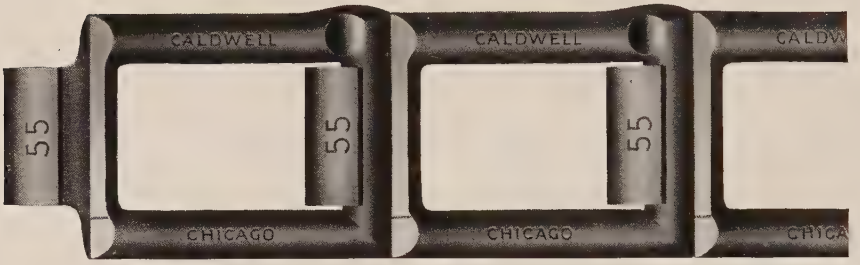
No. 52. Approximate links in 10 ft., 80. Average ultimate strength, 2300 lbs.

The above cuts are full size.

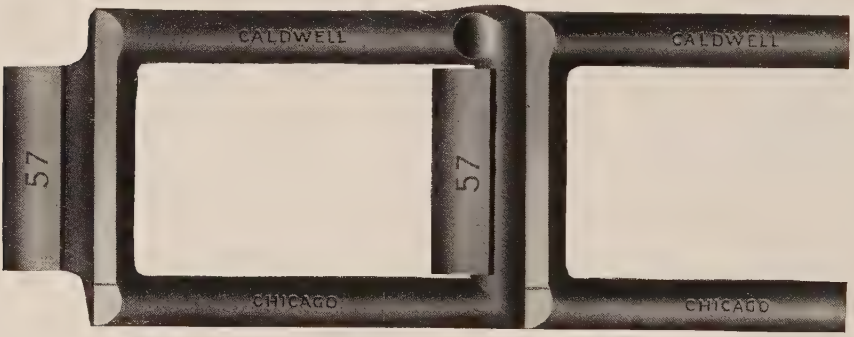
For prices, and list of attachments for each chain, see pages 556 to 559.

For price list of sprocket wheels, see pages 560 to 564.

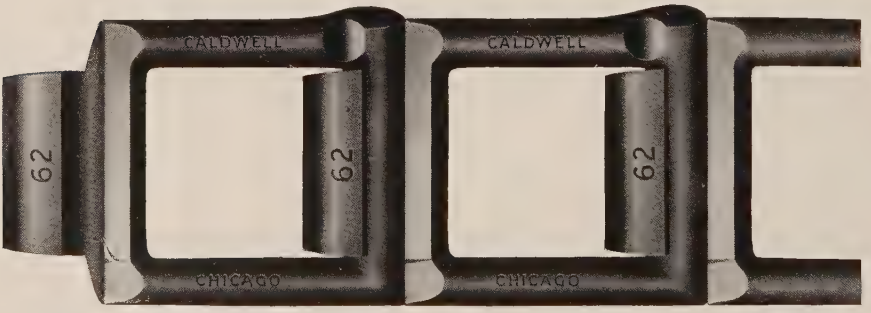
Standard Detachable Link Belting—Continued



No. 55. Approximate links in 10 ft., 74. Average ultimate strength, 2200 lbs.



No. 57. Approximate links in 10 ft., 52. Average ultimate strength, 2800 lbs.



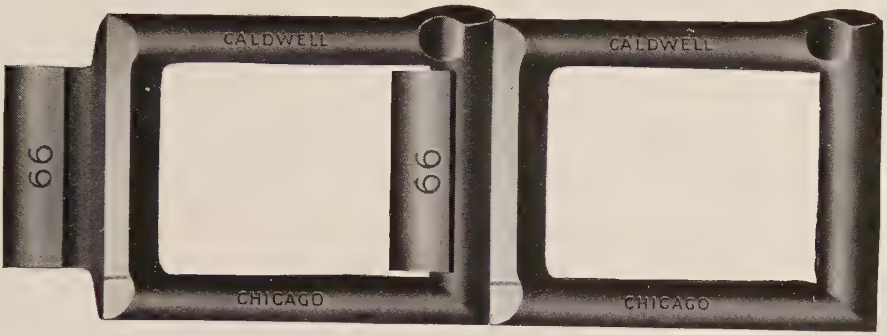
No. 62. Approximate links in 10 ft., 73. Average ultimate strength, 3100 lbs.

The above cuts are full size.

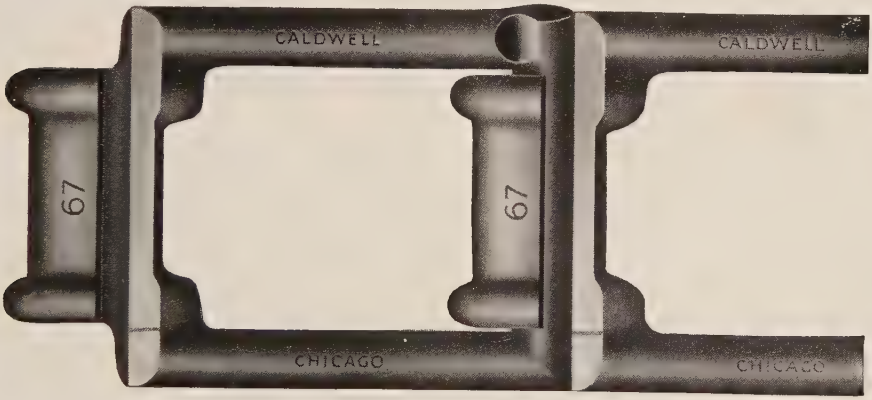
For prices, and list of attachments for each chain, see pages 556 to 559.

For price list of sprocket wheels, see pages 560 to 564.

Standard Detachable Link Belting—Continued



No. 66. Approximate links in 10 ft., 60. Average ultimate strength, 2600 lbs.



No. 67. Approximate links in 10 ft., 52. Average ultimate strength, 3300 lbs.

No. 75. Approximate links in 10 ft., 46. Average ultimate strength, 4000 lbs.

The above cuts are full size.
For prices, and list of attachments for each chain, see pages 556 to 559.
For price list of sprocket wheels, see pages 560 to 564.

Standard Detachable Link Belting—Continued

No. 77. Approximate links in 10 ft., 52.
Average ultimate strength, 3600 lbs.

No. 78. Approximate links in 10 ft., 46.
Average ultimate strength, 4900 lbs.

The above cuts are full size.

For prices, and list of attachments for each chain, see pages 556 to 559.

For price list of sprocket wheels, see pages 560 to 564.

Standard Detachable Link Belting—Continued

No. 88. Approximate links in 10 ft., 46. Average ultimate strength, 5750 lbs.

The above cut is full size.

For prices, and list of attachments for each chain, see pages 556 to 559.

For price list of sprocket wheels, see pages 560 to 564.

Standard Detachable Link Belting—Continued

No. 83. Approximate links in 10 ft., 30. Average ultimate strength, 4950 lbs.

The above cut is full size.

For prices, and list of attachments for each chain, see pages 556 to 559.

For price list of sprocket wheels, see pages 560 to 564.

Standard Detachable Link Belting—Continued

No. 85. Approximate links in 10 ft., 30. Average ultimate strength, 7600 lbs.

The above cut is full size.

For prices, and list of attachments for each chain, see pages 556 to 559.

For price list of sprocket wheels, see pages 560 to 564.

Standard Detachable Link Belting—Continued

No. 95. Approximate links in 10 ft., 30. Average ultimate strength, 8700 lbs.

The above cut is full size.

For prices, and list of attachments for each chain, see pages 556 to 559.

For price list of sprocket wheels, see pages 560 to 564.

Standard Detachable Link Belting—Continued

No. 103. Approximate links in 10 ft., 39.3. Average ultimate strength, 9600 lbs.

The above cut is full size.

For prices, and list of attachments for each chain, see pages 556 to 559.

For price list of sprocket wheels, see pages 560 to 564.

Standard Detachable Link Belting—Continued

No. 108. Approximate links in 10 ft., 25½. Average ultimate strength, 9900 lbs.

The above cut is full size.

For prices, and list of attachments for each chain, see pages 556 to 559.

For price list of sprocket wheels, see pages 560 to 564.

Standard Detachable Link Belting—Continued

No. 114. Approximate links in 10 ft., 37. Average ultimate strength, 11000 lbs.

The above cut is full size.

For prices, and list of attachments for each chain, see pages 556 to 559.

For price list of sprocket wheels, see pages 560 to 564.

Standard Detachable Link Belting—Continued

No. 122. Approximate links in 10 ft., 20. Average ultimate strength, 15000 lbs.

The above cut is *not* full size.

For prices, and list of attachments, see pages 556 to 559.
For price list of sprocket wheels, see pages 560 to 564.

Standard Detachable Link Belting—Continued

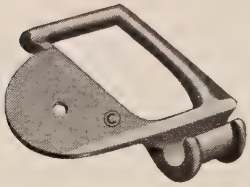
No. 124. Approximate links in 10 ft., 30. Average ultimate strength, 12700 lbs.

The above cut is full size.

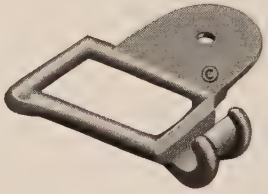
For prices, and list of attachments, see pages 556 to 559.
For price list of sprocket wheels, see pages 560 to 564.

Attachments for Link Belting

We illustrate below the more common forms of attachment links made for the different sizes of link belting. Other styles than those shown will be quoted upon application. On pages 557 to 559 we list the attachments made for different sizes of chain. It is well to consult this list before ordering, so as to make sure that the attachment you desire is made for the size of chain you have selected. Special attachment links can be made to order, if circumstances warrant.

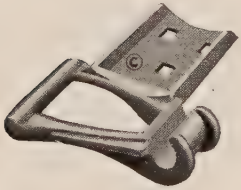


A1 Right

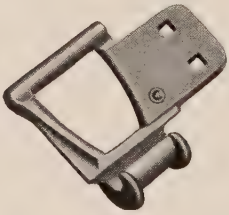


A1 Left

A2

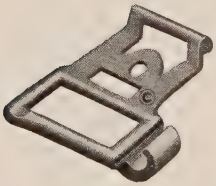


A3

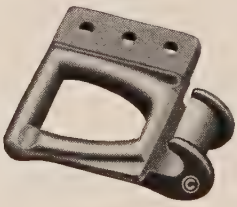


A4

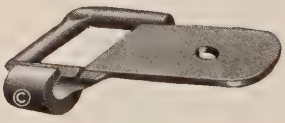
A7



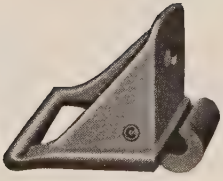
A10



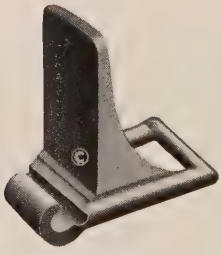
A11



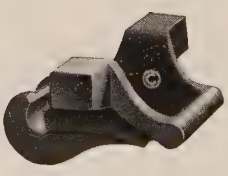
A12



C1



C2

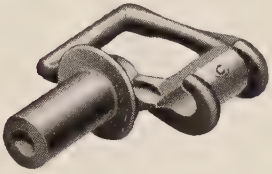


DD

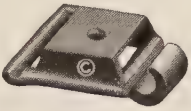
For price list, see pages 557 to 559. The above attachments are not made for all sizes of chain. For schedule of sizes of chain for which different attachments are made, see pages 557 to 559.

Attachments for Link Belting—Continued

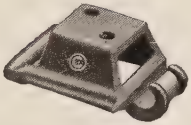
D3



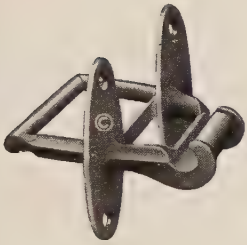
D5



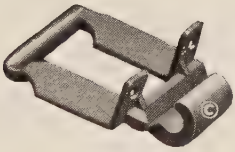
E1



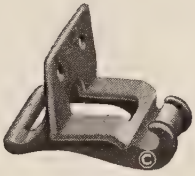
E2



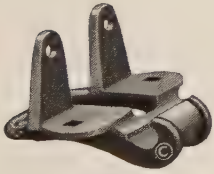
FF



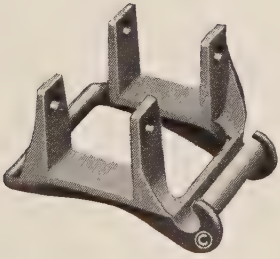
F1



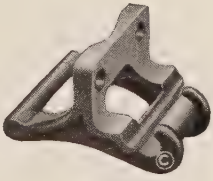
F2



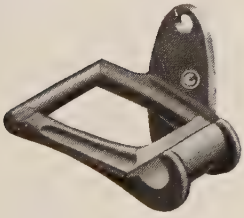
F4



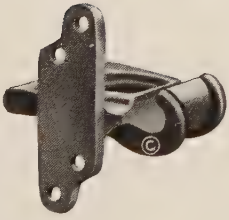
F5



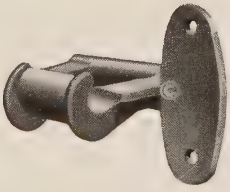
F8



G1



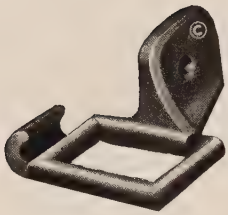
G6



G19

For price list, see pages 557 to 559. The above attachments are not made for all sizes of chain. For schedule of sizes of chain for which different attachments are made, see pages 557 to 559.

Attachments for Link Belting—Continued



G27

H1

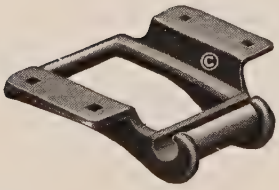
H2

H6

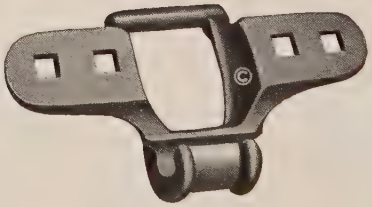
H9

I13

K1

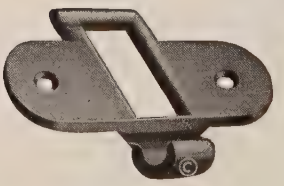


K2



K3

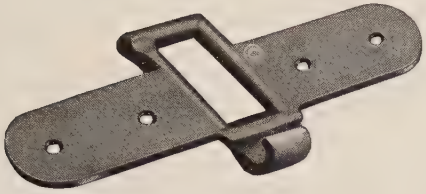
K4



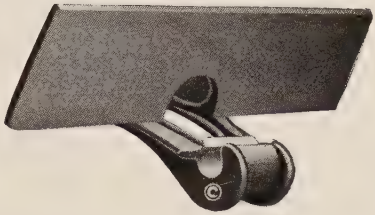
K5

For price list, see pages 557 to 559. The above attachments are not made for all sizes of chain. For schedule of sizes of chain for which different attachments are made, see pages 557 to 559.

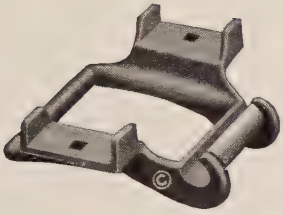
Attachments for Link Belting—Continued



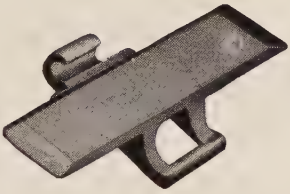
K6



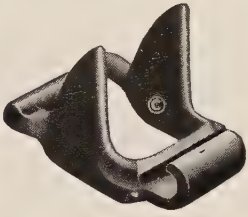
Scraper No. 88



K7

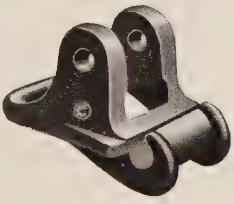


K40

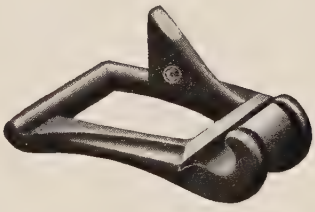


L2

M1

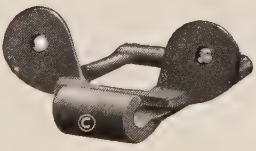


M3

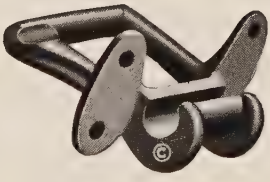


R1

R3



S1

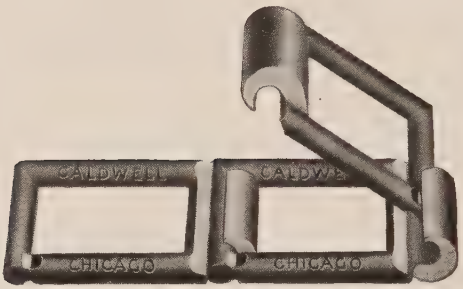


S2

Chain Coupler

Coupling links are convenient for coupling chain where the ordinary method of detaching and coupling the link cannot be used. For price list, see page 556. The above attachments are not made for all sizes of chain. For schedule of sizes of chain for which different attachments are made, see pages 557 to 559.

Standard Sizes of Plain Link Belting



Price List, Subject to Discount

Number	Price, Per Foot	Couplers, Per Pair	Links, Per Foot	Pitch, in Inches	Average Ultimate Strength, Lbs.	*CODE WORD
25	$0.15	$0.15	13.3	.902	700	Blameless
32	.16	.16	10.4	1.153	1,100	Blanched
33	.15	.15	8.6	1.395	1,190	Bland
34	.17	.17	8.6	1.395	1,300	Blandish
42	.19	.19	8.8	1.375	1,500	Blanket
45	.16	.16	7.4	1.630	1,600	Blarney
50	.22	.22	8.7	1.380	1,600	Luctatoris
51	.23	.23	10.4	1.155	1,900	Blasonner
52	.23	.23	8.	1.506	2,300	Blaspheme
55	.20	.20	7.4	1.631	2,200	Blastment
57	.24	.24	5.2	2.308	2,800	Blatant
62	.27	.27	7.3	1.654	3,100	Blattering
67	.29	.29	5.2	2.308	3,300	Blazonry
75	.27	.27	4.6	2.609	4,000	Bleachery
77	.32	.32	5.2	2.293	3,600	Bleakness
78	.44	.44	4.6	2.609	4,900	Bleared
83	.51	.51	3.	4.	4,950	Bleating
85	.57	.57	3.	4.	7,600	Blemish
88	.50	.50	4.6	2.609	5,750	Blend
95	.63	.63	3.	3.967	8,700	Blessed
103	.73	.73	3.93	3.075	9,600	Blest
108	.75	.75	2.55	4.720	9,900	Blight
110	.78	.78	2.55	4.720	12,700	Blindage
114	.98	.98	3.7	3.250	11.000	Blindfold
124	1.10	1.10	3.	4.063	12,700	Blinkard

For sprocket wheel price list see pages 560 to 564.

*These code words, when used alone, indicate plain chain. If all attachments are wanted, use this code, add name of attachment, and follow with the word "Birrago." If attachments are wanted at intervals, use this code, add name of attachment and say "every third," "every fifth," and the like to indicate how frequently the attachment is to be inserted.

Standard Attachment Links for Link Belting

Price List per Foot, Subject to Discount

No. 25

A1	$0.31
C1	.41
H2	.32
K1	.37

No. 32

A1	$0.29
C1	.39
E1	.27
K1	.35

No. 33

A1	$0.26
E1	.25
K1	.33
S1	.35

No. 34

A1	$0.31
C1	.36
E1	.28
K1	.33

No. 42

A1	$0.37
C1	.35
K1	.38
S1	.38

No. 45

A1	$0.31
A2	.38
C1	.32
E1	.26
F2	.36
G1	.28
K1	.33
K40	.53
S1	.35

No. 52

A1	$0.41
A3	.46
F2	.52
K1	.42

No. 55

A1	$0.34
C1	.37
E1	.37
F2	.41
K1	.39
K45½	.98
S1	.37
S5	.40
Scraper No. 19 each	.15
Scraper No. 20, each	.10

No. 57

A1	$0.39
F2	.56
K1	.47

No. 62

A1	$0.46
C1	.45
D5	.60
K1	.50
K5	.49
K40	.78
S1	.47

No. 67

A1	$0.51
D5	.53
E1	.47
F2	.58
G1	.59
K1	.52

No. 75

F2	$0.63
H1	.46
K1	.51

No. 77

A1	$0.55
A113	.56
D5	.64
E1	.53
F2	.72
G1	.64
H1	.73
K1	.74
R3	.57

No. 78

A11	$0.65
F2	.80
G6	.80
G19	.78
H2	.88
K1	.66
M3	.94
R1	.50

No. 83

D5	$0.93
K1	.74
M3	.97

No. 85

F2	$1.00
K2	.86

No. 88

A11 (2 Holes)	$0.72
D5	.93
E1	.87
F2	.90
F8	.94
G6	.85

No. 88 — Cont.

G19	$0.94
H1	.92
H2	.96
K1	.76
M3	1.27
R1	.58

No. 95

F2	$1.21
K2	.97

No. 103

A11	$1.12
F2	1.25
F8	1.40
G6	1.38
G19	1.28
H1	1.20
H2	1.25
K1	1.13
K2	1.18
M3	1.38

No. 108

F2	$1.44
K2	1.24

No. 110

F2	$1.59
K2	1.41

No. 114

F8	$2.00
K1	1.40
K2	1.45

No. 124

F8	$2.11
G6	1.83
K1	1.92

The above sizes of Link Belting are known as Standard Sizes, and are generally kept in stock. In order to avoid delay in delivery these sizes should always be specified where possible.

Made-to-order Special Sizes are shown on pages 558 to 559.

Made-to-Order Special Sizes, Link Belting

The following sizes of Link Belting are not as a rule carried in stock, but can be made to order. Some delay in delivery should be expected when ordering them.

Other sizes of Link Belting and other styles of attachment links which have been listed in previous catalogues can be obtained where necessary for repair work, but should be avoided as far as possible, as delivery will be delayed.

No. 23

Plain	$0.23
Couplers, per pair	.23

No. 024

Plain	$0.18

No. 025

Plain	$0.21

No. 25

A3	$0.46
A4	.37
D3	.44
E1	.45
G1	.45
M1	.37
R26	.28
S1	.40

No. 31

Plain	$0.24
S10	.87

No. 032

Plain	$0.25

No. 32

A3	$0.36
D3	.55
G1	.52
K3	.62
K5	.42
K6	.64
M1	.57

No. 33

C1	$0.36
D3	.53
K3	.59
K5	.43
K6	.55
M1	.39

No. 34

C2	$0.45

No. 34½

Plain	$0.22
S10	.71

No. 35

Plain	$0.18
Couplers, per pair	.18
A1	.32
C1	.34
E1	.28
K1	.39
S1	.36

No. 37

Plain	$0.17
L3	.31
L14	.31

No. 39—4 Bar

Plain	$0.31

No. 042

Plain	$0.26
A1	.47

No. 42

A3	$0.65
E1	.38
K3	.75
K5	.49
K6	.72

No. 43—3 Bar

Plain	$0.40
K3	.85

No. 44

Plain	$0.22
A3	.48

No. 45

A3	$0.49
A3½	.51
A12	.44
A14	.46
C15	.48
C22	.82
D3	.61
D5	.51
DK	.50
DK with roller 1″ diam	1.20
E12	.25
H2	.52
K1 couplers, per pair	.39
K3	.64
K5	.42
L2	.30
M1	.51
M3	.51
S5	.51
Scraper—	
No. 1, each.	.10
No. 2, each.	.11
No. 3, each.	.12
No. 4, each.	.14

No. 046

Plain	$0.25

No. 46

Plain	$0.22
I15½	.48

No. 47

Plain	$0.22
L4	.50

No. 48

Plain	$0.20
A3	.55
K1	.62

No. 51

A1	$0.56
K1	.60
K5	.65
S1	.60

No. S-51

Plain	$0.29

No. 052

Plain	$0.30
Couplers, per pair	.30

No. 52

A14	$0.65
B14	1.00
C1	.48
D3	.80

Made-to-Order Special Sizes, Link Belting—Continued

No. 52 — Cont.

D5.....$0.64
E1..... .50
G1..... .58
K5..... .79
K50..... 2.34
S1..... .50

No. 52½ Light

Plain.....$0.23

No. 52½ Heavy

Plain.....$0.30
Couplers, per pair..... .30

No. 055

Plain.....$0.24

No. 55

A2.....$0.47
A3..... .54
A11..... .45
A14..... .48
C8, sometimes known as C5 .56
C28..... .75
G27..... .52
K5..... .49
K40..... .52
L2..... .41
M1..... .56

No. 55 Keeper

Plain.....$0.22
A2..... .50

No. 057

Plain.....$0.24
G26..... .46
L3..... .39
L23..... .48

No. 57

D5.....$0.51
E1..... .44
H2..... .59
Tube each.... .07

No. 58

Plain.....$0.30

No. 062

Plain.....$0.33
Couplers, per pair..... .33

No. 62

A12.....$0.64
B14..... 1.00
G1..... .74

No. 62½

Plain.....$0.30

No. 063

Plain.....$0.35

No. 65

Plain.....$0.29

No. 66

Plain.....$0.32
Couplers, per pair..... .32
C1..... .58

No. 67

A7.....$0.61
D5 with Roller 1½″ diam.. 1.70
K3..... .74
Tube, each... .09

No. 071½

Plain.....$0.49

No. 072

Plain.....$0.47
Couplers, per pair..... .47

No. 72

Plain.....$0.48

No. 072½

Plain.....$0.50

No. 72½

Plain.....$0.52
Couplers, per pair..... .52

No. 075

Plain.....$0.38

No. 75

D5.....$0.79
E1..... .48
G1..... .78
H2..... .71
R1..... .47
R2..... .49

No. 75½

Plain.....$0.34
H2..... .50

No. 76½

Plain.....$0.35

No. 77

G6.....$0.70
G19..... .90
M3..... .83
R1..... .51

No. 78

A1.....$0.75
A3..... .93
D5..... 1.24
E1..... .71
G1..... .90
H1..... 1.00
K3..... 1.05

No. 83

E1.....$0.93

No. 85

G6.....$1.10

No. 88

A3.....$1.04
DF14, with Roller, 1¾″ diam..... 1.60
DK..... 1.17
DK with roller, 2″ diam.... 1.87
E2..... .94
F12..... 1.39
G1..... 1.00
R8..... .73

No. 88½

Plain.....$0.77

No. 93

Plain.....$0.75

No. 103

A4.....$1.20
E1..... 1.26
RR..... 1.15

No. 114

A11.....$1.50
DD..... 2.26
M3..... 1.85

No. 122

Plain.....$1.30
Couplers, per pair..... 1.30
K2..... 2.25

No. 124

F2.....$2.40

No. 146

Plain.....$1.25
F2..... 2.27
K2..... 2.63
Couplers, per pair..... 1.25

No. E1 Plain..$0.35
No. 1A..... .51
No. 2A..... .30
No. 5A..... .68
No. SE13 Plain .87
F2..... 2.00

Sprocket Wheels for Link Belting

Fig. 45480. (*Bairns*)

Price list on the following pages covers grey iron sprocket wheels, bored, and set screwed or keyseated, with bore not larger than standard given in list. An extra charge will be made for hubs longer than our standard, or for hubs faced both ends, or for hubs both keyseated and set screwed. Extra charges for larger than regular bores below.

In telegraphing, use code word for size from list and follow with code word for bore, as given in code for bore of gears, page 372.

Sprockets preceded in the list by a * can also be furnished with Chilled Rims. See page 565. For price list of Traction Wheels, see page 569.

Extra Charges for Sprocket Wheels With Bores Larger than Regular, Subject to Discount

When Listed Bore is	ADD TO THE LIST PRICE FOR LARGER BORE AS BELOW										
	$1\frac{15}{16}$″	$2\frac{7}{16}$″	$2\frac{15}{16}$″	$3\frac{7}{16}$″	$3\frac{15}{16}$″	$4\frac{7}{16}$″	$4\frac{15}{16}$″	$5\frac{7}{16}$″	$5\frac{15}{16}$″	$6\frac{7}{16}$″	$6\frac{15}{16}$″
$1\frac{7}{16}$″	$1.10	$2.20	$3.30	$4.60	$6.40	.....	.....	.....	.....	.....	.....
$1\frac{11}{16}$″	.50	1.60	2.70	4.00	5.80	$8.30	.....	.....	.....	.....	.....
$1\frac{15}{16}$″	.....	1.10	2.20	3.50	5.30	7.80	$10.30	.....	.....	.....	.....
$2\frac{7}{16}$″	.....	.....	1.10	2.40	4.20	6.70	9.20	$13.20	$17.60	.....	.....
$2\frac{15}{16}$″	.....	.....	.....	1.30	3.10	5.60	8.10	12.10	16.50	$20.10	$26.10
$3\frac{7}{16}$″	.....	.....	.....	.....	1.80	4.30	6.80	10.80	15.20	18.80	24 80
$3\frac{15}{16}$″	.....	.....	.....	.....	.....	2.50	5.00	9.00	13.40	17.00	23 00
$4\frac{7}{16}$″	.....	.....	.....	.....	.....	.....	2.50	6.50	10.90	14.50	20.50
$4\frac{15}{16}$″	.....	.....	.....	.....	.....	.....	.....	4.00	8.40	12.00	18.00

Sprocket Wheels for Link Belting

Price List, Subject to Discount

No. 25

Pitch Diam., Inches	No. of Teeth	Price Solid	Price Split	Largest Bore at Regular Price	CODE WORD For Size
1½	5	$1.65	$4.15	⅝″	Baiseman
2	7	1.75	4.25	¾″	Baiser
2½	8	1.80	4.30	1″	Bait
2¾	9	1.85	4.35	1⅛″	Baiting
3	10	1.90	4.60	1¼″	Bakery
3¼	11	1.95	4.65	1 7/16″	Belafre
3½	12	2.00	4.70	1 7/16″	Balancer
3¾	13	2.05	4.75	1 7/16″	Balandras
4	14	2.10	4.80	1 7/16″	Balane
4¼	15	2.15	4.85	1 7/16″	Balbutier
4¾	16	2.20	4.90	1 7/16″	Balcony
5	17	2.30	5.00	1 7/16″	Baldachin
5¾	20	2.60	5.30	1 7/16″	Baldness
6	21	2.70	5.40	1 7/16″	Baleful
6¼	22	2.80	5.50	1 7/16″	Balevre
7¼	25	3.10	5.80	1 7/16″	Limitasse
7½	26	3.20	5.90	1 7/16″	Balister
8	28	3.40	6.60	1 7/16″	Balisage
9	32	3.80	7.00	1 7/16″	Balaam
10	35	4.10	7.30	1 7/16″	Balistique
10¼	36	4.20	7.40	1 7/16″	Balk
12	42	4.80	8.40	1 7/16″	Ballad
13¾	48	5.80	9.40	1 7/16″	Balloon
15	52	6.20	9.80	1 7/16″	Ballot
16	56	6.60	10.20	1 7/16″	Balmy
17¼	60	7.00	10.60	1 7/16″	Balneary
18¼	64	7.60	11.60	1 7/16″	Balourd
24	84	10.40	16.00	1 7/16″	Balsam

No. 32

2	5	$1.85	$4.35	⅝″	Balsamique
2½	6	1.90	4.40	¾″	Balustrade
2¾	7	1.95	4.45	1″	Balzane
3	8	2.00	4.50	1 3/16″	Bambin
3½	9	2.05	4.75	1 7/16″	Bamboche
3¾	10	2.10	4.80	1 7/16″	Banaage
4¼	11	2.15	4.85	1 7/16″	Bandagiste
4¾	13	2.30	5.00	1 7/16″	Bandbox
5½	15	2.55	5.25	1 7/16″	Larikstat
6	16	2.70	5.40	1 7/16″	Banderole
8¼	22	3.60	6.80	1 7/16″	Bandit
8½	23	3.75	6.95	1 7/16″	Bandy
9	24	3.90	7.10	1 7/16″	Baneful
9¼	25	4.05	7.25	1 7/16″	Banging
12	33	5.25	8.85	1 7/16″	Banish
14	38	6.10	9.70	1 7/16″	Banishment
16	44	7.00	10.60	1 7/16″	Banking
16½	45	7.15	10.75	1 7/16″	Banner

Nos. 33 and 34

3	7	$2.05	$4.55	1 3/16″	Bannock
4	9	2.20	4.90	1 7/16″	Banquet
4½	10	2.30	5.00	1 7/16″	Banqueting
5½	12	2.50	5.20	1 7/16″	Bantam
6¼	14	2.80	5.50	1 7/16″	Larinatis

Nos. 33 and 34—Continued

Pitch Diam., Inches	No. of Teeth	Price Solid	Price Split	Largest Bore at Regular Price	CODE WORD For Size
6½	15	$3.00	$5.70	1 7/16″	Banter
7	16	3.20	5.90	1 7/16″	Bantling
8½	19	3.80	7.00	1 7/16″	Baptism
9¾	22	4.40	7.60	1 7/16″	Baptistry
12	27	5.20	8.80	1 7/16″	Baralipton
14¼	32	6.30	9.90	1 7/16″	Barb
15¼	34	6.70	10.30	1 7/16″	Barbarian
16	36	7.00	10.60	1 7/16″	Barbarity
18¼	41	7.90	11.90	1 7/16″	Barbated
24	54	10.60	16.20	1 7/16″	Barbecue

Nos. 35, 45, 55

2½	5	$2.05	$4.55	1″	Barber
3	6	2.10	4.60	1 3/16″	Barbillion
3¾	7	2.20	4.90	1 7/16″	Barbitier
4¼	8	2.30	5.20	1 11/16″	Barbotes
4¾	9	2.50	5.70	1 15/16″	Barcarolle
5¼	10	2.70	5.90	1 15/16″	Bardism
5¾	11	2.90	6.10	1 15/16″	Barely
6	12	3.10	6.30	1 15/16″	Barefoot
7	13	3.40	6.60	1 15/16″	Bareness
7¼	14	3.70	6.90	1 15/16″	Barillet
8	15	3.95	7.65	1 15/16″	Balador
8½	16	4.20	7.90	1 15/16″	Barking
8¾	17	4.45	8.15	1 15/16″	Barmaid
9½	18	4.70	8.40	1 15/16″	Barnabite
10	19	4.95	8.65	1 15/16″	Barnacle
10½	20	5.20	8.90	1 15/16″	Barnard
11½	22	5.60	9.30	1 15/16″	Barometer
12	23	5.85	9.85	1 15/16″	Baron
12½	24	6.10	10.10	1 15/16″	Baronage
13	25	6.35	10.35	1 15/16″	Baronet
14¼	27	6.90	10.90	1 15/16″	Baronial
15½	30	7.70	11.70	1 15/16″	Laseris
16	31	8.00	12.00	1 15/16″	Barogue
18¼	35	9.10	13.60	1 15/16″	Baroscope
20¼	39	10.15	14.65	1 15/16″	Barracks
21¾	42	11.00	15.50	1 15/16″	Barratter
22¾	44	11.50	16.00	1 15/16″	Barrenness
23½	45	11.80	16.30	1 15/16″	Barricade
28	54	14.50	20.50	1 15/16″	Barrier
30	58	15.60	22.60	1 15/16″	Barrister
36	69	20.75	28.55	1 15/16″	Barrulet
42	82	28.50	37.50	1 15/16″	Bartery

No. 42

3	7	$2.15	$4.65	1″	Barytone
3¾	9	2.30	5.00	1 7/16″	Basalt
4¼	10	2.40	5.10	1 7/16″	Bajury
4¾	11	2.55	5.45	1 11/16″	Basaltine
5¾	13	2.85	6.05	1 15/16″	Bascule
6¼	14	3.00	6.20	1 15/16″	Basement
8	18	3.80	7.50	1 15/16″	Baseness
8¼	19	4.05	7.75	1 15/16″	Bash

Sprocket Wheels for Link Belting—Continued

Price List, Subject to Discount

No. 42—Continued

Pitch Diam., Inches	No. of Teeth	Price Solid	Price Split	Largest Bore at Regular Price	CODE WORD For Size
9½	22	$4.70	$8.40	1 15/16"	Bashful
10½	24	5.10	8.80	1 15/16"	Basilica
11¾	27	5.80	9.50	1 15/16"	Basils
14	32	7.00	11.00	1 15/16"	Basilary
15½	36	7.80	11.80	1 15/16"	Basilisk
18	41	8.80	13.30	1 15/16"	Basinet
20	46	9.80	14.30	1 15/16"	Basisolute
24	55	11.95	17.95	1 15/16"	Basket

No. 51

1¾	5	$1.95	$4.45	⅝"	Basking
2½	7	2.05	4.55	¾"	Bassock
3½	9	2.15	4.65	1 3/16"	Larmette
3¾	10	2.20	4.90	1 7/16"	Limnea
4	11	2.30	5.20	1 7/16"	Bastard
4¼	12	2.40	5.60	1 11/16"	Bastinado
4¾	13	2.45	5.65	1 3/16"	Limitless
5	14	2.50	5.70	1 15/16"	Bastion
5¼	15	2.65	5.85	1 15/16"	Luctayerat
5¾	16	2.80	6.00	1 15/16"	Limitions
6¼	17	3.00	6.20	1 15/16"	Batable
8	22	3.90	7.60	1 15/16"	Bataclan
9¼	25	4.45	8.15	1 15/16"	Limitrofo
10	27	4.75	8.45	1 15/16"	Batardeau
10¾	29	5.05	8.75	1 15/16"	Batelage
12	33	5.65	9.65	1 15/16"	Bateless
13¾	38	6.70	10.70	1 15/16"	Limitative
14	39	6.85	10.85	1 15/16"	Batement
16	45	7.80	11.80	1 15/16"	Batful
18¼	50	8.70	13.20	1 15/16"	Bathing

No. 52

2¾	6	$2.10	$4.60	1 "	Batisseur
3½	7	2.20	4.70	1 3/16"	Batonic
4	8	2.30	5.00	1 7/16"	Battalion
4¼	9	2.50	5.40	1 11/16"	Battery
5	10	2.70	5.90	1 15/16"	Battish
5¼	11	2.95	6.15	1 15/16"	Battlement
5½	12	3.20	6.40	1 15/16"	Baudrier
6	13	3.45	6.65	1 15/16"	Baudruche
6½	14	3.70	6.90	1 15/16"	Bavard
7	15	3.90	7.10	1 15/16"	Bavocher
7½	16	4.10	7.30	1 15/16"	Bavolet
8	17	4.35	8.05	1 15/16"	Bawkinf
9	19	4.85	8.55	1 15/16"	Baying
10	21	5.35	9.05	1 15/16"	Bazaar
12½	26	6.60	10.60	1 15/16"	Beachy
13	27	6.85	10.85	1 15/16"	Beacon
14½	30	7.60	11.60	1 15/16"	Beaconage
16½	34	8.50	12.50	1 15/16"	Beadle
18	38	9.50	14.00	1 15/16"	Beadroll
20	42	10.50	15.00	1 15/16"	Beaker
22	46	11.50	16.00	1 15/16"	Beaming
23¾	49	12.25	16.75	1 15/16"	Beamless
24½	51	12.75	18.75	1 15/16"	Bearable
26½	55	13.90	19.90	1 15/16"	Bearded
30½	64	17.00	24.00	1 15/16"	Beardless

Nos. 57, 67, 77

Pitch Diam., Inches	No. of Teeth	Price Solid	Price Split	Largest Bore at Regular Price	CODE WORD For Size
4½	5	$2.40	$4.90	1 3/16"	Bearer
4¾	6	2.80	5.50	1 "	Bearish
5½	7	3.20	6.10	1 11/16"	Beast
6	8	3.60	6.80	1 15/16"	Beaten
6¾	9	3.95	7.15	2 3/16"	Beatilles
7½	10	4.30	7.80	2 7/16"	Beatify
8	11	4.65	8.65	2 7/16"	Beatitude
8¾	12	5.00	9.00	2 7/16"	Beau
9½	13	5.40	9.40	2 7/16"	Beaucoup
10¼	14	5.80	9.80	2 7/16"	Balagar
11	15	6.20	10.20	2 7/16"	Beaufils
11¾	16	6.60	10.60	2 7/16"	Beauteous
12½	17	7.00	11.30	2 7/16"	Beautiful
13¼	18	7.40	11.70	2 7/16"	Balaghat
14	19	7.80	12.10	2 7/16"	Baurt
14¾	20	8.20	12.50	2 7/16"	Beaver
15½	21	8.60	12.90	2 7/16"	Becalming
16½	22	9.00	13.30	2 7/16"	Bechamel
17	23	9.40	13.70	2 7/16"	Beckon
18¼	25	10.20	15.00	2 7/16"	Beloud
19¾	27	11.00	15.80	2 7/16"	Becoming
20	28	11.40	16.20	2 7/16"	Bedaub
22	30	12.20	17.00	2 7/16"	Bedding
24¼	33	13.50	19.90	2 7/16"	Bedeck
26	36	14.80	21.20	2 7/16"	Bedew
28	38	15.60	22.00	2 7/16"	Bedizan
30	41	17.25	24.55	2 7/16"	Bedlam
32½	44	19.50	26.80	2 7/16"	Bedlamite
36	49	23.25	31.35	2 7/16"	Bedmate
38½	52	25.50	33.60	2 7/16"	Bedote
41½	56	28.50	36.60	2 7/16"	Bedouin
44½	60	31.50	40.80	2 7/16"	Bedrid
47½	64	34.00	43.30	2 7/16"	Bedridden

No. 62

3½	6	$2.20	$4.70	1 "	Bedside
3¾	7	2.30	4.80	1 "	Bedstead
4¼	8	2.40	4.90	1 3/16"	Beechen
5	9	2.60	5.30	1 7/16"	Beefsteak
5½	10	2.80	5.50	1 7/16"	Balaika
5¾	11	3.20	6.10	1 11/16"	Beehive
6¼	12	3.60	6.80	1 15/16"	Larunda
7¼	14	4.20	7.70	2 3/16"	Beemoth
8	15	4.45	8.45	2 7/16"	Beetle
8¼	16	4.70	8.70	2 7/16"	Befit
9¼	18	5.20	9.20	2 7/16"	Befitting
10	19	5.60	9.60	2 7/16"	Larymna
10½	20	6.00	10.00	2 7/16"	Befriend
11½	22	6.50	10.50	2 7/16"	Begayant
12	23	6.75	11.05	2 7/16"	Begetter
14¾	28	8.10	12.40	2 7/16"	Begetting
16	30	8.70	13.00	2 7/16"	Beggar
18	34	9.80	14.60	2 7/16"	Begging
20	38	11.00	15.80	2 7/16"	Beginner
23	43	12.50	17.30	2 7/16"	Begird
24	45	13.10	19.50	2 7/16"	Begone

Sprocket Wheels for Link Belting—Continued

Price List, Subject to Discount

No. 62—Continued

Pitch Diam., Inches	No. of Teeth	Price Solid	Price Split	Largest Bore at Regular Price	CODE WORD For Size
26	49	$14.30	$20.70	2 7/16″	Begot
30½	58	17.40	24.70	2 7/16″	Begotten

No. 66

3	6	$2.40	$4.90	1 3/16″	Begrime
5	8	2.80	5.50	1 7/16″	Begrudge
7	11	4.05	7.25	1 15/16″	Beguile
7½	12	4.40	7.60	2 3/16″	Behave
8½	13	4.70	8.70	2 7/16″	Behavior
10¼	16	5.80	9.80	2 7/16″	Behead
12½	19	6.85	11.15	2 7/16″	Behest
16¼	25	8.90	13.20	2 7/16″	Behind

Nos. 75, 78, 88

* 4¼	5	$3.00	$5.50	1 ″	Latinamus
* 5	6	3.40	5.90	1 3/16″	Beholden
* 6	7	3.70	6.60	1 11/16″	Behoove
* 6½	8	4.00	7.20	1 15/16″	Belabor
* 7½	9	4.50	7.70	2 3/16″	Belated
* 8¼	10	5.00	9.00	2 7/16″	Belay
* 9	11	5.55	9.75	2 11/16″	Belch
*10	12	6.10	10.50	2 15/16″	Beldamry
*10¾	13	6.65	11.05	2 15/16″	Beleaguer
*11½	14	7.20	11.60	2 15/16″	Belfry
*12½	15	7.60	12.30	2 15/16″	Belgard
*13¼	16	8.00	12.70	2 15/16″	Balaju
*14¼	17	8.50	13.20	2 15/16″	Belgic
*15	18	9.00	13.70	2 15/16″	Belanit
*16	19	9.50	14.20	2 15/16″	Belief
*16½	20	10.00	14.70	2 15/16″	Believer
*17½	21	10.50	15.20	2 15/16″	Lassgut
*18½	22	11.00	16.20	2 15/16″	Bellicose
*19½	23	11.60	16.80	2 15/16″	Lassezza
*20	24	12.20	17.40	2 15/16″	Belliger
*21	25	12.70	17.90	2 15/16″	Bellinger
*21¾	26	13.20	18.40	2 15/16″	Belling
*22½	27	13.70	18.90	2 15/16″	Lassholz
*23½	28	14.20	19.40	2 15/16″	Lassimo
*24	29	14.70	21.50	2 15/16″	Bellows
*24¾	30	15.20	22.00	2 15/16″	Bellringer
*25¾	31	15.60	22.40	2 15/16″	Lassista
*26½	32	16.00	22.80	2 15/16″	Lasskopf
*27½	33	16.50	23.30	2 15/16″	Lasslorn
*28½	34	17.00	23.80	2 15/16″	Belomancy
*29½	35	17.50	24.30	2 15/16″	Belonging
*30	36	18.00	25.70	2 15/16″	Lassoed
*30½	37	18.75	26.45	2 15/16″	Beloved
*31½	38	19.50	27.20	2 15/16″	Lassoing
*32½	39	20.25	27.95	2 15/16″	Beltane
*33½	40	21.00	28.70	2 15/16″	Belted
*35	42	22.50	30.20	2 15/16″	Balanoid
*35¼	43	23.50	31.20	2 15/16″	Lassuende
*37	44	24.50	33.00	2 15/16″	Belvedere
*38	46	26.50	35.00	2 15/16″	Bemol
*42	49	29.00	38.70	2 15/16″	Bemourn

Nos. 75, 78, 88—Continued

Pitch Diam., Inches	No. of Teeth	Price Solid	Price Split	Largest Bore at Regular Price	CODE WORD For Size
42¼	50	$30.00	$39.70	2 15/16″	Lasstafel
43	52	32.00	41.70	2 15/16″	Lassulata
45	54	34.00	43.70	2 15/16″	Limitatura
46	55	35.50	45.20	2 15/16″	Lendenen
48	58	39.00	51.40	2 15/16″	Bencher
64	77	74.00	88.50	2 15/16″	Bendable
75	88	.....	.....	2 15/16″	Beneath
84	99	.....	.....	2 15/16″	Benedict
91	110	.....	.....	2 15/16″	Benedictal
100	119	.....	.....	2 15/16″	Benefactor

No. 83—All Double Teeth

12	18	$ 7.35	$12.05	2 15/16″	Benefice
16	26	10.75	15.45	2 15/16″	Beneficent
20	32	12.60	17.80	2 15/16″	Beneficial
24	38	15.70	22.50	2 15/16″	Benevolent
28½	44	18.00	24.80	2 15/16″	Benighted
30	48	20.00	27.70	2 15/16″	Benign
34	54	23.25	30.95	2 15/16″	Benignity
41	64	30.50	39.00	2 15/16″	Benison

Nos. 85 and 95

7¾	6	$ 5.50	$ 8.70	1 15/16″	Benitier
10	8	7.00	11.00	2 7/16″	Benoit
12½	10	8.50	13.20	2 15/16″	Benumb
*13½	11	9.50	14.20	2 15/16″	Benzamide
*16	13	11.25	15.95	2 15/16″	Benzoin
17½	14	12.00	16.70	2 15/16″	Bequeathe
*19	15	12.75	17.95	2 15/16″	Larghe
*20	16	13.50	18.70	2 15/16″	Bercail
22½	18	15.00	20.20	2 15/16″	Berceau
24	19	16.00	22.80	2 15/16″	Bereave
*28	22	19.00	25.80	2 15/16″	Limitavate
*30	24	21.00	28.70	2 15/16″	Bereft
33	26	24.00	31.70	2 15/16″	Bergeret
34	27	25.00	33.70	2 15/16″	Berlue
35½	28	28.00	35.70	2 15/16″	Bernardin
60	47	75.00	89.50	2 15/16″	Bernique

No. 103

* 6	6	$4.00	$ 7.20	1 15/16″	Lastage
* 7	7	4.50	7.70	1 15/16″	Bernet
* 7¾	8	5.00	8.20	2 3/16″	Berried
* 8¾	9	5.75	9.75	2 7/16″	Berzelite
* 9¾	10	6.50	10.90	2 15/16″	Beseech
*10¾	11	7.00	11.40	2 15/16″	Balansje
*11¾	12	7.50	12.50	3 7/16″	Beseeching
*12½	13	8.25	13.55	3 7/16″	Beseeming
*13½	14	9.00	14.30	3 7/16″	Beshrew
*14½	15	9.50	14.80	3 7/16″	Besieger
*15½	16	10.00	15.30	3 7/16″	Besmear
*16½	17	10.50	15.80	3 7/16″	Besmoke
*17½	18	11.00	16.30	3 7/16″	Lassulos

Sprocket Wheels for Link Belting—Continued

Price List, Subject to Discount

No. 103—Continued

Pitch Diam., Inches	No. of Teeth	Price Solid	Price Split	Largest Bore at Regular Price	CODE WORD For Size
*18	19	$11.50	$17.30	3 7/16"	Besoin
*19½	20	12.00	17.80	3 7/16"	Besotted
*21½	22	13.50	19.30	3 7/16"	Besought
*22½	23	14.00	19.80	3 7/16"	Bespatter
*23½	24	14.50	20.30	3 7/16"	Bestial
*24½	25	15.25	22.65	3 7/16"	Limitedly
*25½	26	16.00	23.40	3 7/16"	Bestir
*27¼	28	18.00	25.40	3 7/16"	Bestowal
*28	29	18.75	26.15	3 7/16"	Lenhato
*29	30	19.50	26.90	3 7/16"	Lenhoso
*30	31	20.50	28.80	3 7/16"	Bestrewing
*31¼	32	21.50	29.80	3 7/16"	Limitum
*32	33	22.75	31.05	3 7/16"	Bestride
*34	35	25.25	33.55	3 7/16"	Lenidad
*35	36	26.50	34.80	3 7/16"	Leniency
*36	37	28.25	37.35	3 7/16"	Leniendos
*37	38	30.00	39.10	3 7/16"	Betement
*39¼	40	34.00	43.10	3 7/16"	Limmati
*41	42	37.00	46.10	3 7/16"	Betoken
*45	46	41.00	51.50	3 7/16"	Betray
*48	49	45.25	58.75	3 7/16"	Betraymen
66	68	89.00	107.80	3 7/16"	Betroth
68	70	(7 Segments).....			Betting
79	81	.....		4 7/16"	Bevel
96	98	(7 Segments).....			Beverage
103⅝	108	(6 Segments).....			Bewail
110½	117	(14½ Segments)....			Bellabatur
127	130	(13 Segments).....			Bellacuelo

No. 108

9½	6	$ 7.00	$11.40	2 15/16"	Bicipital
12	8	8.50	13.80	3 7/16"	Bickering
13½	9	9.50	14.80	3 7/16"	Bicorne
16½	11	11.50	16.80	3 7/16"	Bicuspid
18	12	12.50	18.30	3 7/16"	Bidding
20	14	14.50	20.30	3 7/16"	Biddy
*24	16	17.50	24.90	3 7/16"	Bienfait
*30	20	23.00	31.30	3 7/16"	Biennial
36	24	30.00	39.10	3 7/16"	Biensеant
48	32	48.00	61.50	3 7/16"	Bientot

No. 114

8	8	$ 6.00	$10.00	2 7/16"	Bienvenue
*10	10	7.00	11.40	2 15/16"	Biestings
*12½	12	8.50	13.20	2 15/16"	Balanzon
*13¼	13	9.00	14.30	3 7/16"	Biferous

No. 114—Continued

Pitch Diam., Inches	No. of Teeth	Price Solid	Price Split	Largest Bore at Regular Price	CODE WORD For Size
*14¼	14	$ 9.50	$14.80	3 7/16"	Bifold
*16½	16	11.00	16.30	3 7/16"	Biforate
*17½	17	11.75	17.05	3 7/16"	Lenient
*18½	18	12.50	18.30	3 7/16"	Balarus
19½	19	13.25	19.05	3 7/16"	Bifurcated
*23	22	16.00	21.80	3 7/16"	Lenientem
*24	23	16.75	24.15	3 7/16"	Bifurcous
*24½	24	17.50	24.90	3 7/16"	Bigamist
26¾	26	19.50	26.90	3 7/16"	Balascio
*31	30	22.50	30.80	3 7/16"	Bigamy
*33	32	25.00	33.30	3 7/16"	Bigler
36	35	29.75	38.85	3 7/16"	Bigness
48½	47	49.50	63.00	3 7/16"	Bigoted

No. 122

17½	9	$16.00	$22.00	3 15/16"	Bijoutry
19	10	18.00	24.50	3 15/16"	Bilateral
23	12	22.00	28.50	3 15/16"	Bile
29½	15	28.00	36.00	3 15/16"	Biliary
42½	22	47.00	58.70	3 15/16"	Bilious

No. 124

11½	9	$ 9.50	$13.90	2 15/16"	Bilking
12½	10	11.00	16.30	3 3/16"	Billet
14½	11	12.00	17.30	3 7/16"	Billiards
15¼	12	13.00	19.00	3 11/16"	Billion
16½	13	14.00	20.00	3 15/16"	Billing
18¾	15	16.25	22.75	3 15/16"	Billowy
21½	17	18.75	25.25	3 15/16"	Bilobate
22½	18	20.00	26.50	3 15/16"	Balasto
24	19	21.00	29.00	3 15/16"	Bimanous
26	20	22.00	30.00	3 15/16"	Binary
31	24	26.50	36.00	3 15/16"	Binding
36	28	33.00	43.30	3 15/16"	Binocular
44	34	44.00	55.70	3 15/16"	Binomial
48	38	52.00	66.70	3 15/16"	Biographer
62	48	90.00	107.00	3 15/16"	Biology
72	56	114.00	138.50	3 15/16"	Biparous

No. 146

16	8	$13.00	$19.00	3 15/16"	Biped
18	9	15.00	21.50	3 15/16"	Birch
20	10	17.00	23.50	3 15/16"	Birchrod
32	16	28.00	37.50	3 15/16"	Birchen
36	18	33.00	43.30	3 15/16"	Birchwood

Chilled Rim Sprocket Wheels

Fig. 38491. (*Dryope*)

Where chain is used in dusty places, or where grit comes in contact with the chain or wheels, the wear on ordinary sprocket wheels is excessive and the cost of replacing considerable. In such instances we recommend the use of Chilled Rim Sprocket Wheels. The illustration above shows the result of chilling on the surface of the iron. The portions of the rim and teeth which are subjected to wear are made harder than the balance of the wheel. In addition, in making these wheels we use a special hard grade of iron, and after the wheels are cast they are annealed so that the arms and hub are no more brittle than ordinary sprocket wheels. In any case where the ordinary sprocket wheel is not giving satisfaction the slight additional cost of a chilled rim wheel will be more than repaid due to less frequent shut-downs, etc.

The same list is used as for regular cast iron wheels, the discount being different.

We have the necessary equipment for furnishing chilled rim wheels of sizes, preceded in sprocket wheel list by *.

In telegraphing precede the code word for the proper size of wheel, as given in the sprocket wheel list on preceding pages, by the word Dryope.

Idlers and Tighteners for Sprocket Chain

Price List, Subject to Discount

Fig. 45482. Roller Idler. (*Blackjack*)

Prices same as for Style A.

Fig. 45483. Sprocket Tightener A. (*Blackman*)

Sprocket Tightener, Style A, for No. 55 link belt and smaller sizes	$ 5.00
For link belt, No. 57 to No. 77	7.50
For link belt, No. 78 to No. 103	10.00

Fig. 45484. Sprocket Tightener B. (*Blackness*)

Sprocket Tightener, Style B, for No. 55 link belt and smaller sizes	$ 5.00
For link belt No. 57 to No. 77	8.00
For link belt No. 78 to No. 103	12.00

In ordering by telegraph use code word for style and specify size of chain.

Sprocket Wheels with Friction Clutches

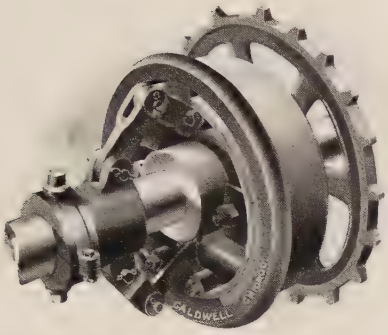


Fig. 45485. (*Landkuchen*)
Sprocket Wheel with Expansion Clutch

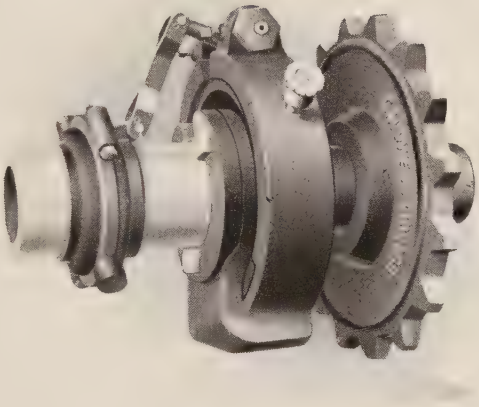


Fig. 45486. (*Landladies*)
Sprocket Wheel with Contracting Ring Clutch

Sprocket Wheels can be fitted to either the clutches shown above or to our Standard or Double Disc Clutches. To determine the price of clutch sprockets with Expansion, or Double Disc Clutches, to the price of the sprocket with bore large enough to fit over sleeve of clutch, add the price of friction clutch with extended sleeve of proper length. Prices of Contracting Ring Clutches on application.

Standard Friction Clutches are only used with the larger sprocket wheels, where the diameter of the sprocket is greater than the size of clutch. Prices will be quoted on application.

In all cases the clutch used should be large enough to transmit the full horse power of the chain at the speed at which the sprocket is to run.

Chilled Rim Traction Wheels

Fig. 45487. (*Larifugis*)

Traction Wheels are very satisfactory for use as head wheels in elevators handling heavy or gritty material. The traction or grip of the wheel on the chain is ample to pull any load which the chain or buckets should be called upon to carry. If the elevator becomes choked or the buckets catch on any obstruction, the chain will slip and not break. Elevators fitted with Traction Head Wheels run smoother and last longer when handling gritty material than when sprocket wheels are used.

Our traction wheels are made with smooth chilled rims, and are cast from a special hard iron, and annealed after casting, so that the hubs and arms are not brittle.

The price list on the next page covers chilled wheels, bored and set screwed or keyseated. Always specify whether the wheel is to be set screwed or keyseated.

An extra charge is made for traction wheels having bores larger than largest bore given in price list. Extra charges for large bores are given on page 560.

In telegraphing, use code word for size of traction and follow with code word for bore, as given in code for bore of gears, page 372.

Chilled Rim Traction Wheels—Continued

Price List, Subject to Discount

Nos. 78, 83, 88

Actual Outside Diam., Inches	Price Solid	Price Split	Largest Bore at Regular Price	CODE WORD
9	$ 5.90	$ 9.20	2 7/16"	Luminandam
11 1/2	8.00	12.00	2 15/16"	Luminaria
16 7/8	9.00	13.10	2 15/16"	Luminaries
19	9.90	13.90	2 15/16"	Lumination
25 5/8	14.60	20.00	2 15/16"	Luminativo
29	16.00	21.80	2 15/16"	Luminatura

Nos. 85, 95, 102, 102 1/2

11 3/8	$ 9.75	$14.00	2 15/16"	Luminella
12	10.75	16.75	2 15/16"	Luminemus
14	11.50	17.50	2 15/16"	Lumining
15 1/8	12.00	18.00	2 15/16"	Luminoso
19 1/2	14.00	20.00	2 15/16"	Luminously
22 3/4	16.75	23.50	3 7/16"	Lumpazius
23 1/8	18.50	25.00	3 7/16"	Lumpending
29 1/4	29.50	37.50	3 7/16"	Lumpenform

Nos. 103, 114, 131, 823

10 3/8	$ 8.50	$13.50	2 15/16"	Lumpenfrau
12	9.75	14.75	3 7/16"	Lumpengeld
12 3/8	10.00	15.00	3 7/16"	Lumpenhaft
18 1/4	11.75	17.75	3 7/16"	Lumpenkram
20 1/16	15.00	23.00	3 7/16"	Lumpenlade
21 1/4	18.00	26.00	3 7/16"	Lumpennest
21 7/8	19.00	27.00	3 7/16"	Lumpensack
22 3/4	20.50	28.50	3 7/16"	Lumpenvolk
23 7/8	22.00	31.00	3 7/16"	Lumpenwelt
24 5/8	24.00	34.00	3 7/16"	Lumpenwolf
28 3/8	28.00	38.00	3 7/16"	Lumpenwort
31 3/4	33.00	44.00	3 15/16"	Lumpenzeug
35 3/4	37.00	48.00	3 15/16"	Lumpiger

Nos. 108, 110, 146, 111, 710

13 1/4	$14.00	$21.00	3 7/16"	Lumpigheit
15	16.00	22.00	3 7/16"	Lumpishly
17 1/8	19.00	26.50	3 7/16"	Lumpzucker
20	22.75	29.50	3 7/16"	Lunabamus
23	25.50	32.00	3 7/16"	Lunabitis
27 3/4	30.00	38.00	3 7/16"	Lunabunt
29	31.50	40.00	3 7/16"	Lunaison
35	40.00	49.00	3 15/16"	Lunarians
37 5/8	45.00	56.00	3 15/16"	Lunaribus

Nos. 122, 132

Actual Outside Diam., Inches	Price Solid	Price Split	Largest Bore at Regular Price	CODE WORD
16 1/8	$17.00	$22.00	3 15/16"	Lunarino
17 1/8	19.00	25.00	3 15/16"	Lunarisch
18	20.50	27.00	3 15/16"	Lunaticos
18 3/16	22.00	29.00	3 15/16"	Lunaticum
19 1/4	22.75	29.75	3 15/16"	Lunatique
21 7/8	24.00	31.00	3 15/16"	Lunatisme
29 1/4	38.00	46.00	4 7/16"	Lunaturis
30	40.00	48.00	4 7/16"	Lunaverat

Nos. 124, 730, 825, 830

16 11/16	$15.50	$21.50	3 15/16"	Lunavimus
18 1/16	17.00	23.50	3 15/16"	Lunavisse
18 3/4	18.50	25.25	3 15/16"	Lunavistis
19 1/4	20.00	27.25	3 15/16"	Lunderaars
22 1/4	25.00	34.25	3 15/16"	Lunecilla
28 7/8	30.00	39.00	3 15/16"	Lunensibus
29 3/8	32.00	41.00	3 15/16"	Lunettone
35	36.00	46.00	3 15/16"	Lungagnola

No. 141

18 1/4	$14.00	$17.00	3 7/16"	Lungamente
23 5/8	19.50	24.50	3 7/16"	Lungarnata
24 3/4	21.50	26.25	3 7/16"	Lungenband
30	27.50	32.25	3 15/16"	Lungenfaul
33 3/8	33.00	39.00	3 15/16"	Lungenmoos

No. 844

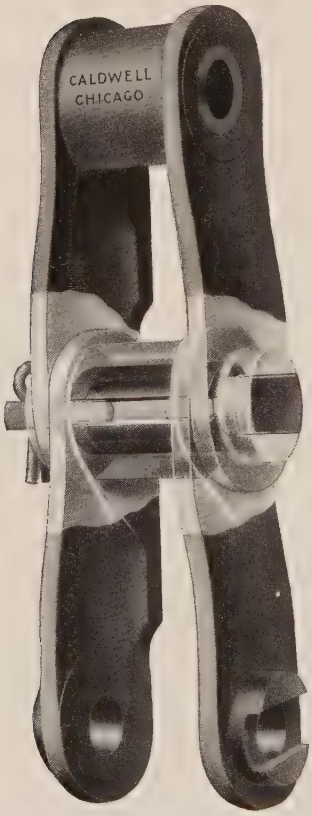
18 1/2	$16.00	$21.50	3 15/16"	Lungennetz
21 7/8	23.50	31.00	3 15/16"	Lungensack
23 7/8	25.00	32.50	3 15/16"	Lungerer
27 3/4	30.00	38.50	3 15/16"	Lungheggia
33 3/8	38.00	48.00	4 7/16"	Lungheria

For extra charge for bores larger than regular, see page 560.

In telegraphing, use code word for size from list and follow with code word for bore. See code for bore of gears, page 372.

The Ley Detachable Steel-Bushed Chain

Is especially adapted for heavy drives, and for elevators and conveyors handling material of a gritty or wearing nature, as ore, sand, coke, ashes, slag, etc. Its distinguishing feature is the case-hardened steel bush as seen in cut below. This alone comes in contact with the sprocket wheel, and between it and the steel pins is the articulation of the chain. The chain is detachable, and the bushings readily slipped in and out, and cheaply renewed. No portions of the links, which are made of malleable iron, are exposed to wear, and the life of the chain is thus unlimited.



Section "Ley" Bushed Chain
Illustrating Steel Pin and
Case-Hardened Steel Bushing

Fig. 45488. (*Blithely*)

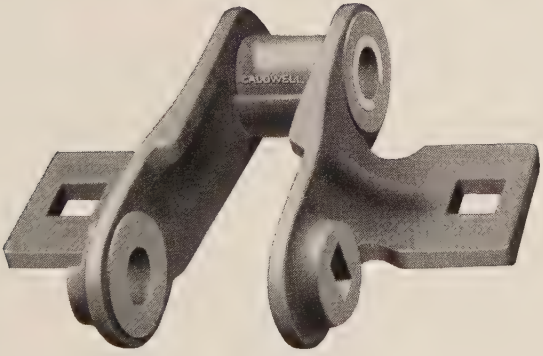
Prices of chain, attachments and sprocket wheels on following pages.

Ley Detachable Steel-Bushed Chain—Continued

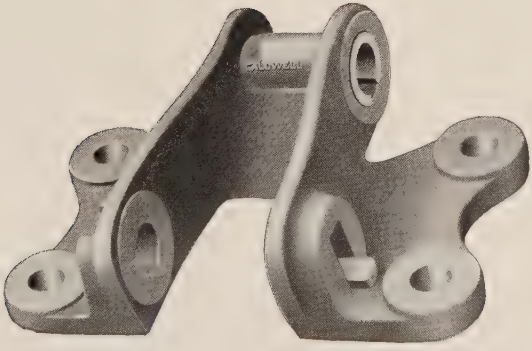
Attachment Links

F2

G6



K1



K2

Ley Steel-Bushed Chain

Price List, Subject to Discount

No. of Chain	Price of Plain Links, per Foot	Code Word for Plain Chain Only	Pitch, Inches	Diameter of Pin	Average Ultimate Strength, Pounds	Price Pins, Each	Price Bushings, Each
823	$2.00	Boarder	4	½	18,000	$0.28	$0.20
825	3.20	Boarish	4	¾	26,000	.50	.30
830	2.60	Boastful	6	¾	29,000	.50	.30
843	4.40	Boating	6	¾	33,000	.68	.40
844	3.40	Bobance	6	¾	32,000	.68	.40

Attachment Links for Ley Steel-Bushed Chain

Price List, Subject to Discount

No. 823

F—2	$3.20	Molenda
G—6	3.00	Molgevate
K—2	2.50	Molimus

No. 825

F—2	$4.50	Molleggia
G—6	4.50	Mollicello
K—2	4.60	Mollipes

No. 830

F—2	$3.50	Mollivate
G—6	3.60	Molybdan
K—2	3.60	Moltiplici

No. 843

K—2	$5.10	Momordiga

No. 844

K—2	$4.00	Monacanda

Prices for attachments as above are per foot.
For prices of sprocket wheels, see page 573.

Sprocket Wheels for Ley-Steel Bushed Chain

Wheels marked * can be furnished with Chilled Rim at an extra charge.

Price List, Subject to Discount

No. 823

Largest bore at regular price $2\frac{15}{16}$".

Pitch Diam., Inches	No. of Teeth	Price Solid	Price Split	CODE WORD
*10½	8	$ 8.50	$13.50	Bloodless
*12½	10	9.75	14.75	Bloodstone
14½	11	10.25	15.75	Blooming
*15¾	12	10.75	16.25	Blossom
*18	14	11.75	17.75	Blotchy
18¾	15	14.50	21.25	Blotless
*21½	17	18.00	26.00	Blotter
*24	19	22.00	31.00	Blower
*26	20	24.00	34.00	Bludgeon
31	24	30.00	40.00	Bluebell
*36	28	37.00	48.00	Bluff
40⅞	32	44.00	56.00	Limmers
48½	38	56.00	70.00	Bluffness

No. 825

Largest bore at regular price $3\frac{15}{16}$".

*12	9	$11.00	$16.50	Blundering
15½	12	14.50	20.75	Blunting
*16¾	13	15.50	21.50	Banco
*17¾	14	17.00	24.25	Bluntness
*20½	16	20.00	27.25	Blurting
21¾	17	25.00	34.25	Blandel
*23	18	27.00	36.25	Blush
*29¼	23	31.00	40.00	Limiteriez
*30½	24	32.00	41.00	Bluster
36	28	36.00	46.00	Blutage

No. 830

Largest bore at regular price $3\frac{15}{16}$".

Pitch Diam., Inches	No. of Teeth	Price Solid	Price Split	CODE WORD
15¾	8	$14.00	$19.75	Bocardions
*19½	10	17.00	23.25	Bocellato
23	12	20.50	28.00	Bochorno
30½	16	30.50	40.00	Bogliente
*35½	18	42.00	54.00	Boisselier

No. 843

Largest bore at regular price $3\frac{15}{16}$".

15¾	8	$16.50	$23.00	Bolleremo
19	10	20.00	27.00	Bajus
23	12	23.50	32.25	Bollimento
25	13	26.50	35.50	Bombando
*29	15	35.00	46.00	Bombycinus
36½	19	50.00	62.00	Latinarent

No. 844

Largest bore at regular price $3\frac{15}{16}$"

*19½	10	$16.00	$21.50	Bakacs
*23	12	23.50	31.00	Bonamente
*25	13	25.00	32.50	Banaron
*29	15	30.00	38.50	Bonarieta
34½	18	38.00	48.00	Bonaroba
36½	19	42.00	52.00	Banasta

For extra charge for sprocket wheels with large bores, see page 560.
For traction wheels, see pages 568 and 569.
Code for bores, see code for bores of gears, page 372.

Malleable Iron and Steel Combination Chain

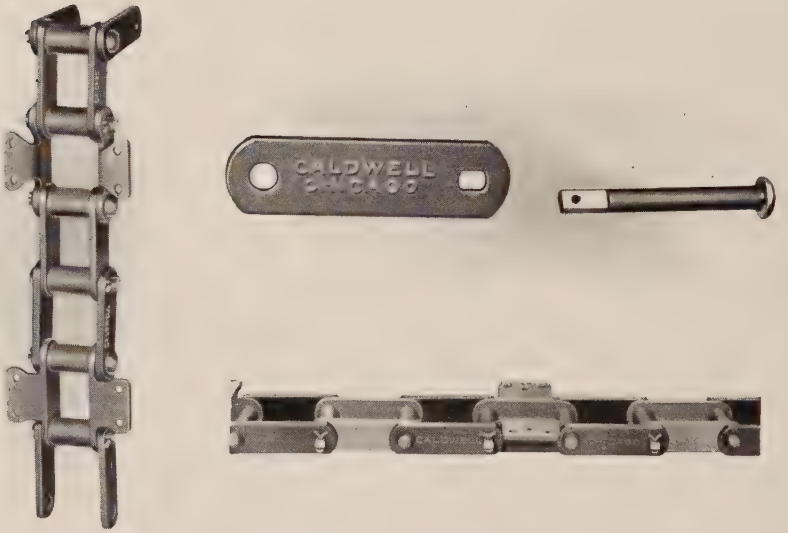


Fig. 45489. (*Limiteroni*)

Combination Chain is extensively used for elevator and conveyor work, particularly with elevators carrying sand, stone, gravel, etc. It is simple, substantial, and comparatively inexpensive. The pins are of steel, generally held in place with cotter pins, so that the chain is detachable. The chain can also be furnished with riveted pins, at slightly additional expense.

The ends of the pins are flattened, as shown in the cut, fitting tightly into slotted holes in the steel side bars. This prevents the pins from turning and wearing the holes in the side bar, lengthening the pitch and making the chain useless. The older patterns of this chain were made with a key under the head of the pin, which under severe load would wear and permit the pin to rotate.

The articulation of the chain is between the pin and the barrel of the malleable links, giving ample wearing surface.

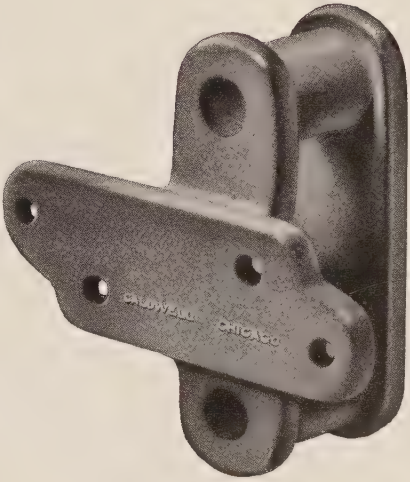
Attachment links are ordinarily made of malleable iron, but where the K1 or K2 links are to be spaced an odd number of links apart, some of the side bars are made with projections, forming a K attachment. The F2 and G6 attachments can only be spaced an even number of links apart, as every second, fourth or sixth link.

Price list of Chain and Attachments on page 576.

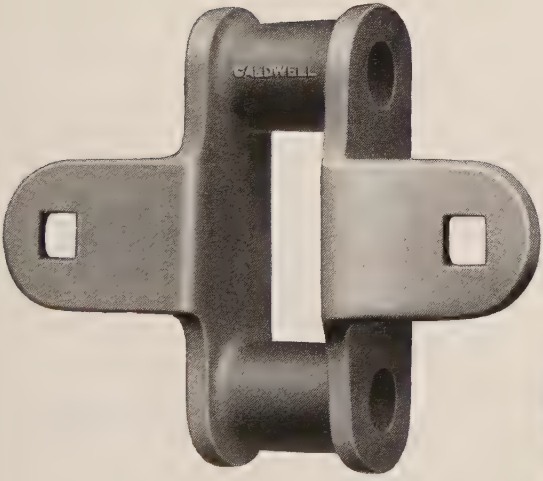
Price list of Sprocket Wheels on page 577.

Attachments for Combination Chain

F2



G6



K1

K-2

Malleable Iron and Steel Combination Chain

Dimensions and Price List, Subject to Discount

No. of Chain	Diameter of Pin, Inches	Pitch of Chain, Inches	Average Ultimate Strength, Pounds	*CODE WORD
102	½	3.95	18,000	Cereopsis
102½	¾	4.	34,000	Cerevisia
111	¾	4.7	41,000	Ceruchus
131	⅝	3.	27,000	Cernous
132	1	6.	51,000	Cetobicle
141	⅝	6.	26,000	Cermalus
188	½	2.6	13,000	Cercovito

*These code words used alone indicate plain chain. If attachments are wanted at intervals, use this code, give name of attachment and say, "every fourth," "every sixth," and the like, to indicate how frequently the attachment is to be inserted.

Chain Assembled, with Pins and Cotters

ATTACHMENTS	NUMBER OF CHAIN						
	102	102½	111	131	132	141	188
All plain links per foot	$1.40	$2.00	$2.00	$1.60	$2.80	$1.40	$1.10
F2 every 2nd link, per foot	.....	2.94	2.50	2.50	.....	.....	1.40
F2 every 4th link, per foot	.....	2.50	2.30	2.20	.....	.....	1.26
F2 every 6th link, per foot	.....	2.34	2.20	2.00	.....	.....	1.20
G1 every 2nd link, per foot	.....	.....	2.50	2.20	.....	.....	.....
G1 every 4th link, per foot	.....	.....	2.30	1.90	.....	.....	.....
G1 every 6th link, per foot	.....	.....	2.20	1.80	.....	.....	.....
G6 every 2nd link, per foot	.....	.....	2.50	2.20	.....	.....	1.50
G6 every 4th link, per foot	.....	.....	2.30	1.90	.....	.....	1.30
G6 every 6th link, per foot	.....	.....	2.20	1.80	.....	.....	1.26
K1 every link, per foot	2.60	.....	.....	3.00	.....	.....	2.50
K1 every 2nd link, per foot	1.70	.....	.....	1.94	.....	.....	1.50
K1 every 3rd link, per foot	1.80	.....	.....	2.10	.....	.....	1.60
K1 every 4th link, per foot	1.56	.....	.....	1.78	.....	.....	1.30
K1 every 5th link, per foot	1.64	.....	.....	1.90	.....	.....	1.40
K1 every 6th link, per foot	1.50	.....	.....	1.72	.....	.....	1.24
K2 every link, per foot	2.60	3.00	3.20	3.00	4.70	2.20	2.50
K2 every 2nd link, per foot	1.70	2.40	2.40	1.94	3.50	1.64	1.50
K2 every 3rd link, per foot	1.80	2.40	2.40	2.10	3.50	1.90	1.60
K2 every 4th link, per foot	1.56	2.20	2.20	1.78	3.30	1.56	1.30
K2 every 5th link, per foot	1.64	2.20	2.24	1.90	3.30	1.66	1.40
K2 every 6th link, per foot	1.50	2.16	2.16	1.72	3.10	1.50	1.24

Detached Parts, Not Assembled

PARTS	NUMBER OF CHAIN						
	102	102½	111	131	132	141	188
Plain Links, Malleable, each	$0.50	$0.74	$0.86	$0.40	$1.56	$0.80	$0.24
F2 Links, Malleable, each	.....	1.32	1.24	.90	.....	.....	.36
G1 Links, Malleable, each	.....	.....	1.28	.70	.....	.....	.....
G6 Links, Malleable, each	.....	.....	1.28	.70	.....	.....	.44
K1 Links, Malleable, each	.68	.....	.....	.56	.....	.....	.34
K2 Links, Malleable, each	.68	1.00	1.16	.56	2.20	1.06	.34
Couplers, Malleable, each	.60	.86	1.06	.60	1.90	.90	.30
Side Bars, Steel, each	.18	.20	.22	.12	.40	.22	.08
K1 Side Bars, Steel, each	.48	.....	.....	.40	.....	.....	.30
K2 Side Bars, Steel, each	.48	.50	.52	.40	1.10	.50	.30
Pins (with cotters), Steel, each	.08	.16	.18	.12	.32	.12	.08

Sprocket Wheels for Malleable Iron and Steel Combination Chain

Price List, Subject to Discount

No. 102

Same list as 85—95 Detachable. See page 563

No. 102½

Pitch Diam., Inches	No. of Teeth	Price Solid	Price Split	Largest Bore at Regular Prices	CODE WORD
9	7	$ 8.00	$11.50	2 3/16	Laringeas
10	8	8.75	13.00	2 7/16	Laringiche
12½	10	10.75	16.75	2 15/16	Laringico
14⅜	11	11.50	17.50	2 15/16	Limitieren
15¼	12	12.00	18.00	2 15/16	Laringizza
16	13	12.75	19.00	2 15/16	Larisenses
17¾	14	13.30	19.50	2 15/16	Larisseen
19	15	14.00	20.00	2 15/16	Laristan
20¼	16	14.50	20.50	2 15/16	Larkspur
22¾	18	16.75	23.50	2 15/16	Larophorum
24	19	18.50	25.00	2 15/16	Larrabure
25½	21	22.75	30.00	2 15/16	Larronneau
30½	24	29.50	37.50	2 15/16	Larualas
33	26	33.00	42.00	2 15/16	Larvabatis

No. 111

9½	6	$10.75	$17.00	2 15/16	Adelino
12½	8	12.00	18.00	3 7/16	Adelog
13½	9	14.00	21.00	3 7/16	Adelopode
15¼	10	16.00	22.00	3 7/16	Latorea
16½	11	17.00	24.00	3 7/16	Adelphia
18	12	20.00	27.50	3 7/16	Adelsbank
19	13	21.00	28.00	3 7/16	Lardalium
20	14	22.75	29.50	3 7/16	Adelvolk
24	16	25.50	32.00	3 7/16	Ademgat
30	20	31.50	40.00	3 7/16	Ademisti
36¼	24	40.00	49.00	3 7/16	Latrabamus
39	26	45.00	56.00	3 7/16	Latrabile

No. 131

Same list as 103—Detachable. See pages 563 and 564

No. 132

Pitch Diam., Inches	No. of Teeth	Price Solid	Price Split	Largest Bore at Regular Prices	CODE WORD
10½	5	$10.00	$15.00	3 15/16	Latrabilis
16	8	17.00	22.00	3 15/16	Latramento
17¾	9	19.00	25.00	3 15/16	Latraremus
19	10	22.00	29.00	3 15/16	Latrated
22	11	24.00	31.00	3 15/16	Latrating
25¾	13	30.00	37.50	3 15/16	Latratore
28	14	35.00	43.00	3 15/16	Latratoris
31	16	40.00	48.00	3 15/16	Latraverat
47½	24	50.00	61.00	3 15/16	Latreutico

No. 141

16	8	$12.50	$15.25	3 7/16	Latricibus
17¾	9	14.00	17.00	3 7/16	Ademeio
19	10	16.00	20.00	3 7/16	Adempt
21¼	11	17.50	22.00	3 7/16	Ademptor
23	12	19.50	24.50	3 7/16	Ademoda
25¼	13	21.50	26.25	3 7/16	Aduzcan
28	14	23.50	28.25	3 7/16	Ademosis
31	16	27.50	32.25	3 7/16	Adentello
34	18	33.00	39.00	3 7/16	Adenter
38½	20	40.00	48.00	3 7/16	Latridie

No. 188

Same list as 75—78—88 Detachable. See page 563

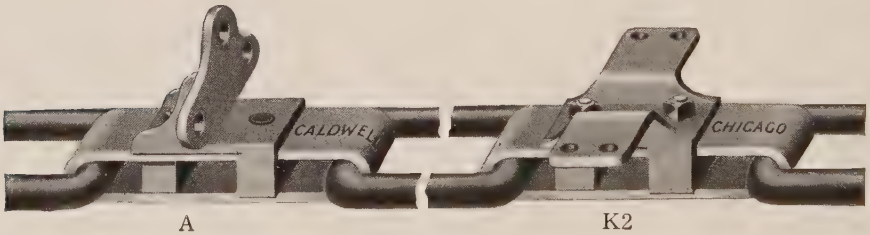
For extra charge for larger than regular bores, see page 560.
For code for bores, see code for bore of gears, page 372.

Welded Steel Link Chain

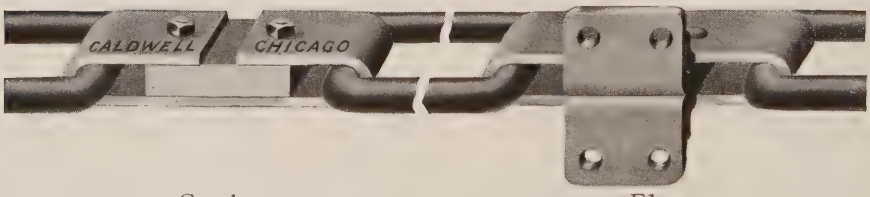
Fig. 45490. (*Bonfire*)

Welded Steel Link Chain is recommended for heavy duty in elevating and conveying work. It has been used very extensively in coal handling and sugar house work. The links are forged steel, carefully welded and accurately pitched.

The attachment links regularly made are shown below. Special attachments can be made to order and prices will be quoted on application.



A K2



Coupler E1

Welded Steel Link Chain

Price List, Subject to Discount

Plain Chain

No.	Pitch, Inches	SIZE OF STEEL		Working Strength, Pounds to 200 Feet Only	Price, Plain Chain, Per Foot	*CODE WORD
		Flat Link	Round Link			
54⅜	4	1 x 3/16	⅜	1100	$2.00	Bondmaid
56½	6	1¼ x ¼	½	1900	1.80	Bondsman
56⅝	6	1⅜ x ⅜	⅝	2600	2.20	Boneless
58¾	8	1¾ x ⅜	¾	4000	2.50	Boneset

Attachment Links

ATTACHMENT	PRICE, EACH							
	No. 54⅜		No. 56½		No. 56⅝		No. 58¾	
	Loose	Assembled in Chains	Loose	Assembled in Chains	Loose	Assembled in Chains	Loose	Assembled in Chains
A—Malleable.....	$0.32	$0.50	$0.58	$0.78	$0.80	$1.00	$1.34	$1.60
E—Steel.....	.50	.74	.60	.84	.70	1.00	.80	1.30
K—Malleable....	.30	.50	.60	.80	.80	1.04	1.10	1.40
Coupler including Block Link.....	.74	.....	.60	.....	.90	.....	1.36	.....

*These code words used alone indicate plain chain. If attachments are wanted at intervals, use this code, give name of attachment, and say "every fourth," "every sixth," and the like, to indicate how frequently the attachment is to be inserted.

Sprocket Wheels for Welded Steel Link Chain

Price List, Subject to Discount

No. 54⅜

Pitch Diam., Inches	No. of Teeth	Largest Bore at Regular Price	Price	CODE WORD
10½	4	2 7/16	$ 7.50	Lascadion
13	5	2 7/16	10.00	Betunabais
15½	6	2 15/16	15.00	Bevandina
18¼	7	2 15/16	17.00	Bevimento
20½	8	3 7/16	19.00	Bezahlen
23¼	9	3 7/16	23.00	Biancastro
28¼	11	3 7/16	26.00	Lascato
31	12	3 7/16	28.00	Laschhaak
36	14	3 7/16	36.00	Biancolino

No. 56½

12	3	2 7/16	$14.00	Laschita
15¼	4	2 7/16	16.00	Laschjes
19¾	5	2 15/16	19.00	Bicameral
23½	6	2 15/16	24.00	Bicharia
27	7	2 15/16	30.00	Bicolorum
31	8	3 7/16	36.00	Bicqueta
35	9	3 7/16	40.00	Bicorporis
46½	12	3 7/16	64.00	Laschnagel
54¼	14	3 7/16	90.00	Laschung
61½	16	3 7/16	100.00	Laschwoord

No. 56⅝

Pitch Diam., Inches	No. of Teeth	Largest Bore at Regular Price	Price	CODE WORD
16	4	2 15/16	$18.00	Lasciammo
19¼	5	2 15/16	21.00	Biasimato
23¼	6	3 7/16	32.00	Bibaculous
27¼	7	3 7/16	35.00	Bibitorio
31	8	3 15/16	38.00	Biblioteca
34¾	9	3 15/16	44.00	Bibulorum
38¾	10	3 15/16	52.00	Lasciando
42½	11	3 15/16	64.00	Lasciarono
46	12	3 15/16	84.00	Lasciassi
58	15	3 15/16	94.00	Lasciata

No. 58¾

21	4	3 15/16	$34.00	Biecamente
26	5	3 15/16	40.00	Bienseance
31¼	6	4 7/16	46.00	Bifarium
36½	7	4 7/16	64.00	Bifidatus
56¾	11	4 7/16	140.00	Lasciavamo
72	14	4 7/16	280.00	Bifidorum
....	..	....	....	.....
....	..	....	....	.....

Code for bores, see code for bores of gears, page 372.
An extra price will be charged for split sprockets.
For extra charge for larger than regular bores, see page 560.

Strap and Side Bar Link Steel Chain

Fig. 45491. (*Bumper*)

The construction of this chain and the large bearing surface between the links make it particularly adapted for heavy elevating and conveying work. Attachments are furnished suitable for the different adaptations of the chain.

Price List, Subject to Discount

No. of Chain	CODE WORD	Working Strength to 150 Feet Only	Price, Per Foot	Pitch, Inches	Size of Bar, Inches	Diameter of Pin
451⅛	Bomberie	3600	$1.80	5	1¼ x ¼	1⅛
461¼	Bombiate	4700	2.10	6	1½ x 5/16	1¼
461⅜	Bombic	6575	2.50	6	1¾ x ⅜	1⅜
481½	Bonbon	7500	2.60	8	2 x ⅜	1½
481½A	Bondage	9000	2.80	8	2 x ½	1½

These code words used alone indicate plain chain. If attachments are wanted at intervals, use this code, give name of attachment and say "every fourth," "every sixth" and the like, to indicate how frequently the attachment is to be inserted.

Sprocket Wheels for Strap and Side Bar Link Steel Chain

Price List, Subject to Discount

No. 451⅛

Pitch Diam., Inches	No. of Teeth	Largest Bore at Regular Price	Price	CODE WORD
13¼	4	2 7/16	$16.00	Larvavis
16¼	5	2 15/16	22.00	Benmontato
19½	6	2 15/16	30.00	Benplacito
25¾	8	2 15/16	36.00	Benservito
29¼	9	2 15/16	44.00	Larveggia
32¼	10	2 15/16	50.00	Bentrovato
35½	11	2 15/16	52.00	Larviforme
38¾	12	2 15/16	56.00	Larvipare

No. 461¼

Pitch Diam., Inches	No. of Teeth	Largest Bore at Regular Price	Price	CODE WORD
16	4	2 15/16	$22.00	Larysium
19¾	5	2 15/16	30.00	Benyoluto
23½	6	3 7/16	34.00	Berachoh
31¼	8	3 7/16	42.00	Bereblero
35	9	3 7/16	56.00	Beredsam
38¾	10	3 7/16	68.00	Bergantino

No. 461⅜

Pitch Diam., Inches	No. of Teeth	Largest Bore at Regular Price	Price	CODE WORD
16	4	3 7/16	$24.00	Laryngite
19¾	5	3 7/16	28.00	Bergarbeit
23½	6	3 15/16	36.00	Bernagie
31	8	3 15/16	46.00	Bernoccolo
35	9	3 15/16	57.00	Berrivola
38¾	10	3 15/16	70.00	Bersaglio

No. 481½

26¼	5	3 15/16	$50.00	Bertisca
36¼	7	4 7/16	66.00	Bertello
41½	8	4 7/16	76.00	Laryngitis
46½	9	4 7/16	88.00	Berthari
51½	10	4 7/16	100.00	Berthing

No. 481½A

26	5	4 7/16	$50.00	Besaban
31	6	4 15/16	56.00	Besacrier
36¼	7	4 15/16	66.00	Besamanos
41½	8	4 15/16	96.00	Besasteis
46½	9	4 15/16	108.00	Laryngeo

Code for bores, see code for bores of gears, page 372.
Prices for attachments will be quoted upon request.
An extra price will be charged for split sprockets.
For extra charge for larger than regular bores, see page 560.

Steel Cable Chain

Fig. 45492. (*Bonheur*)

This chain is made of first-class material, perfectly welded and accurately pitched. It is less expensive than other steel chains and is principally used for conveyors and loghauls.

Price List, Subject to Discount

No. of Chain	Length of Link, Inside, Inches	Width of Link, Inside, Inches	Diameter of Steel, Inches	Price, Per Foot	CODE WORD
64½	4	13/16	½	$0.70	Bonhomme
65⅝	5	1	⅝	.80	Bonify
66¾	6	1⅛	¾	1.00	Bonjour
67⅞	7	1¼	⅞	1.26	Bonnet
671	7	1¾	1	1.80	Bonniness

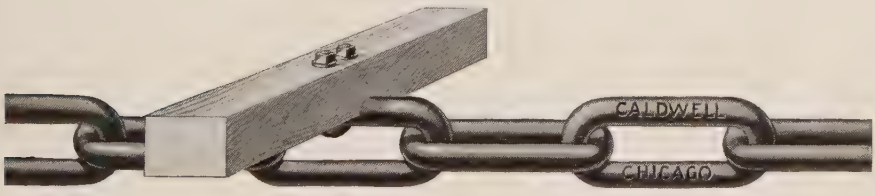


Fig. 45493. (*Lasagnaio*)

Attachments are made for this chain adapted to carry conveyor flights, etc. Prices and styles upon receipt of information as to work to be done.

For price list of sprocket wheels and drums see pages 582 and 583.

Sprocket Wheels for Steel Cable Chain

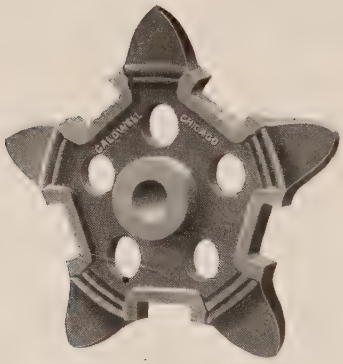


Fig. 45494. (*Lasagne*)

Price List, Subject to Discount

No. 64½

Diam., Inches	Teeth	Price	Largest Bore at Regular Price	CODE WORD
13	5	$ 6.00	2 7/16	Bifolceria
15¾	6	7.50	2 15/16	Bifonchio
20½	8	10.00	3 7/16	Biforcato
23½	9	12.00	3 7/16	Bifurcorum

No. 65⅝

13	4	$ 6.00	2 7/16	Lascivosas
16¼	5	9.00	2 7/16	Bigarames
19½	6	14.00	2 15/16	Bigarrean
22½	7	15.00	2 15/16	Bigarrion
25¼	8	19.00	3 7/16	Laseratus
29¼	9	24.00	3 7/16	Bigleront

No. 66¾

Diam., Inches	Teeth	Price	Largest Bore at Regular Price	CODE WORD
19½	5	$13.00	2 15/16	Bignomia
23½	6	17.00	3 7/16	Bigordando
31	8	30.00	3 7/16	Bigordasti

No. 67⅞

18½	4	$17.00	2 15/16	Lascivos
23	5	19.00	3 7/16	Bigorneta
31¾	7	32.00	3 15/16	Bigotterie

No. 671

23¾	5	$24.00	3 7/16	Bilibrarum
31¾	7	31.00	3 15/16	Bilicarono

An extra charge will be made for split sprockets.
For extra charge for bores larger than regular, see page 560.
For code for bores, see code for bore of gears, page 372.

Drum Wheels for Delivery End of Steel Cable Chain Conveyors

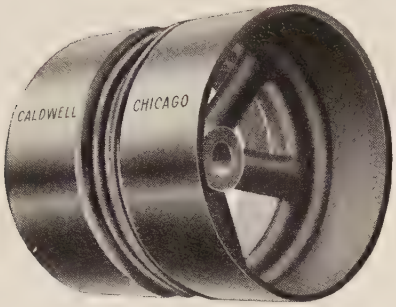


Fig. 45495. (*Laserkraut*)

Price List, Subject to Discount

Diameter, Inches	Face, Inches	No. of Chain	Size of Chain, Inches	Price	CODE WORD
12	12 to 16	64½	4 x ½	$30.00	Monasticom
16	16 to 20	64½	4 x ½	38.00	Monatario
16	16 to 20	65⅝	5 x ⅝	40.00	Anedoe
19	20 to 24	65⅝	5 x ⅝	54.00	Monchlein
20	20 to 24	65⅝	5 x ⅝	64.00	Mondaccio
20	20 to 24	66¾	6 x ¾	70.00	Mondatore
24	20 to 24	66¾	6 x ¾	90.00	Mondazione
20½	20 to 24	67⅞	7 x ⅞	86.00	Mondifichi
24	20 to 24	67⅞	7 x ⅞	94.00	Mondiglia
24	20 to 24	671	7 x 1	104.00	Monederia

Narrow Face Idlers

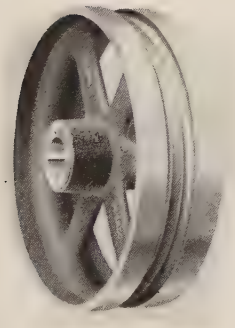


Fig. 45496. (*Lasconazo*)

Price List, Subject to Discount

No. of Chain	Diameter of Idler, Inches	Price	CODE WORD
64½	12	$15.00	Lasciavate
64½	16	19.00	Lascibile
65⅝	16	22.00	Lascivabas
65⅝	19	27.00	Lascivabit
65⅝	20	29.00	Lascivetto
66¾	20	37.00	Lascivia
66¾	24	47.00	Lascivimus
67⅞	20½	51.00	Lascivolam
67⅞	24	60.00	Lascivoli
671	24	64.00	Lasciviunt

Interlocking Riveted Pintle Chain

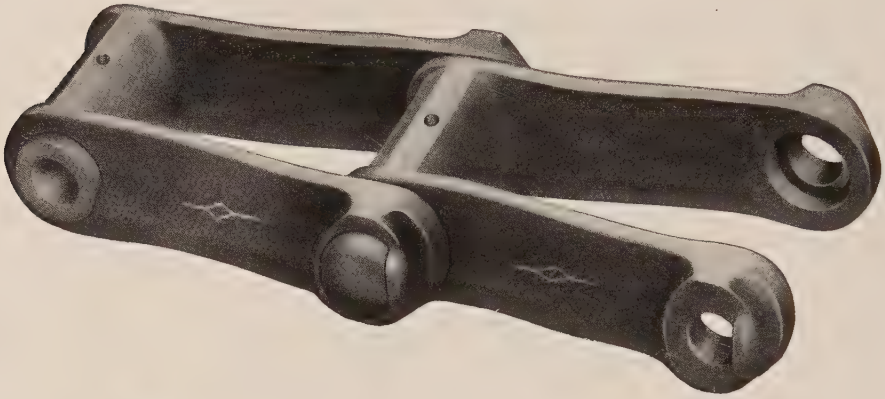
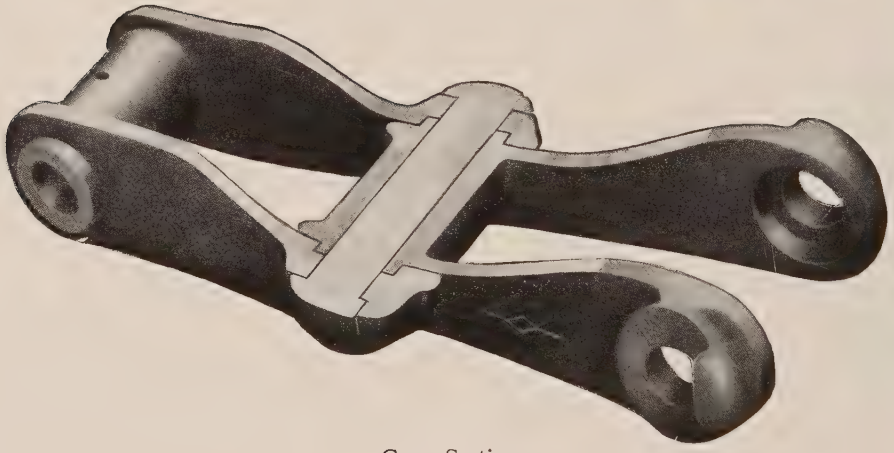


Fig. 45497 (*Landleaper*)



Cross Section

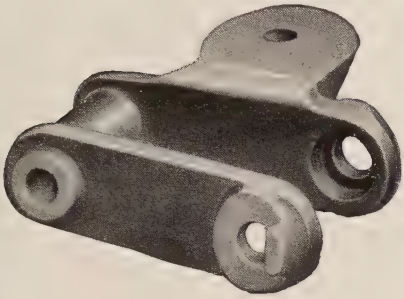
This chain is not a detachable chain, but is very strong and for some classes of work preferable to the detachable chain. The joint interlocks and is as nearly dust and grit proof as can be made. The rivets are key-locked so that they will not turn and thus wear the free open ends of the side bars; they are smooth and have a bearing the entire length of the barrel, which is reamed out. This gives an easy action to the chain, reduces wear and requires less power for operation than does a chain with unfinished joints.

To figure working strains from the ultimate strengths given in the following table, take from one-sixth to one-twentieth of the ultimate strengths, according to speed and diameter of sprocket wheels, and nature of work. See page 537.

Price list, page 586.

Sprocket wheels, page 591.

Attachments for Interlocking Riveted Pintle Chain



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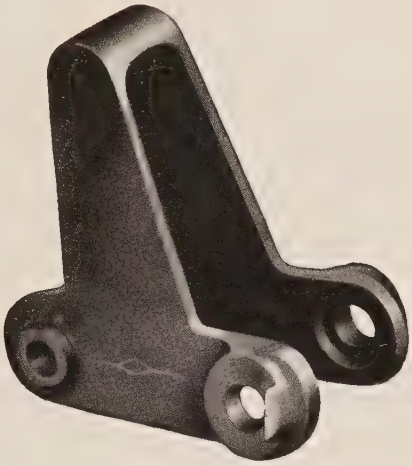

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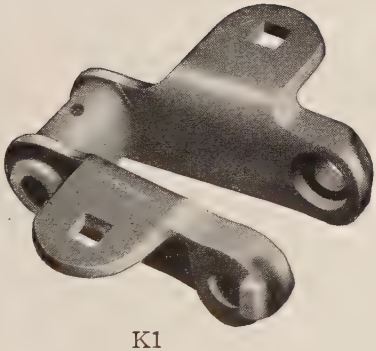

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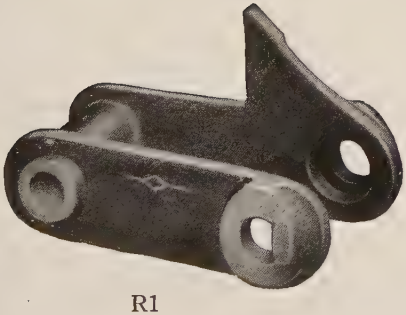
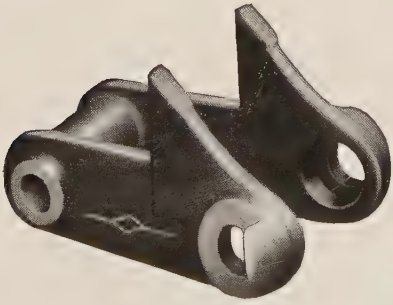


R1

Price list, page 586



RR

Interlocking Riveted Pintle Chain

The sizes named below are considered standard and are usually kept in stock. We can furnish other sizes and special attachments to order. Prices named on application.

To find the working strength of chain, divide the ultimate strength given in the list below by the factors given on page 537.

We carefully fit all sprockets to standard chain before shipment. While the chains are designed to run on the sprockets named in list, we cannot guarantee the chain to fit perfectly unless the sprockets were fitted to the size of the chain on which they are to run. For extra heavy service we can furnish plate center sprockets.

Sprocket wheel lists on pages 562 to 564.

Price List, Subject to Discount

Number	Price per Foot, Plain Links	CODE WORD (See Note)	Approximate Links in 10 Feet	Average Ultimate Strength, Pounds	Runs on Sprocket Wheel of Chain No.
1	$1.02	Vatinius	73	7500	62
0316	.74	Boite	52	8200	67
0319	.80	Boldness	46	11500	88
0321	1.10	Boletic	46	14000	88
0326	1.46	Bolster	39	17300	103
0340	2.20	Burlevole	29½	26000	124

Attachment Links

Price List per Foot, Subject to Discount

No. 0316

A1½	$0.94
AG	1.06
F4	1.32
G1	1.16
H2	1.18
K1	1.04
R1	1.04
RR	1.04

No. 0319

AG	$0.94
F4	1.62
G6	1.72
GF	1.76
H1	1.32
H2	1.32
K1	1.04
R1	1.04
RR	1.04

No. 0321

A7	$1.46
AG	1.32
F4	1.92
G1	1.66
G6	2.04

No. 0321—Continued

GF	$2.14
H2	1.76
K1	1.46
M3	1.76
R1	1.32
RR	1.32

No. 0326

AG	$1.80
F4	2.20
G6	2.74
GF	2.82
H2	2.04
K1	1.90
K2	2.04
M3	2.04
R1	1.76
RR	1.76

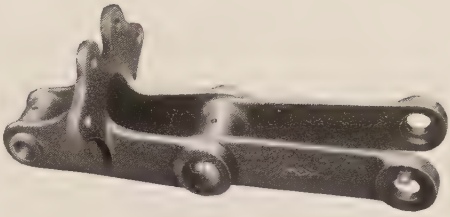
No. 0340

AG	$2.44
F4	2.92
GF	3.60
K2	2.92
RR	2.64

The code word given in the list above, used alone, indicates plain chain. If all attachments are wanted, use this code word, give name of attachment and follow with the code word "Bujellada." If attachments are wanted at intervals, use the code word for size given in the list, follow by the name of the attachment, and say "every third," "every fifth," and the like, to indicate how frequently the attachment is to be inserted.

Detachable Pintle Chain

K2



F2

Price List, per Foot, Subject to Discount

Number	*CODE WORD	Approximate Links in 10 Feet	Average Ultimate Strength, Pounds	Size of Pin, Inches	Work on Sprocket Wheels
710	Barniz	25.5	23500	$\frac{11}{16}$ x $5\frac{5}{16}$	710
730	Bodleian	20	25000	$\frac{3}{4}$ x $3\frac{5}{8}$	730

Number	Plain	F-2	G-6	K-2
710	$1.64	.....	.....	$2.30
730	1.50	$2.10	$2.00	2.50

*These code words used alone indicate plain chain. If all attachments are wanted, use this code, give name of attachment and follow with the word "Bessalis." If attachments are wanted at intervals, use this code, give name of attachment and say "every third," "every fifth," and the like to indicate how frequently the attachment is to be inserted.

Above prices for attachments are all per foot.

Sprockets for Detachable Pintle Chain

No. 710

Largest bore at regular price, $3\frac{7}{16}$ inches.

Pitch Diam., Inches	No. of Teeth	Price, Solid	Price, Split	CODE WORD
9.41	6	$11.00	.....	Barzalo
10.90	7	12.30	.....	Barzillai
12.32	8	13.60	$20.20	Barzoque
13.86	9	15.00	21.60	Basacle
15.31	10	16.60	23.20	Basaloth
16.70	11	18.20	26.70	Basaltos
18.26	12	19.80	28.30	Basaner
19.63	13	21.80	30.30	Basarida
21.18	14	24.00	32.50	Bascans
24.16	16	28.00	39.30	Bruder
27.06	18	32.50	43.80	Lieutenant
30.06	20	37.00	48.30	Balzello
36.21	24	48.00	62.10	Bascia
48.26	32	54.00	93.80	Bandriis

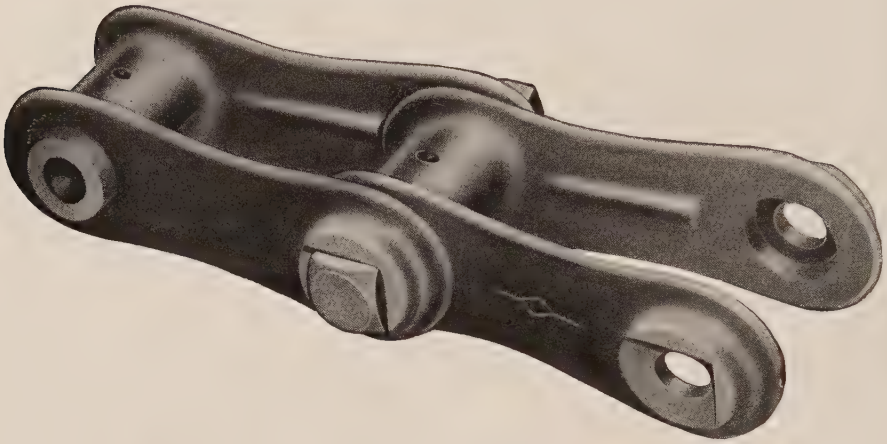
No. 730

Largest bore at regular price, $3\frac{7}{16}$ inches.

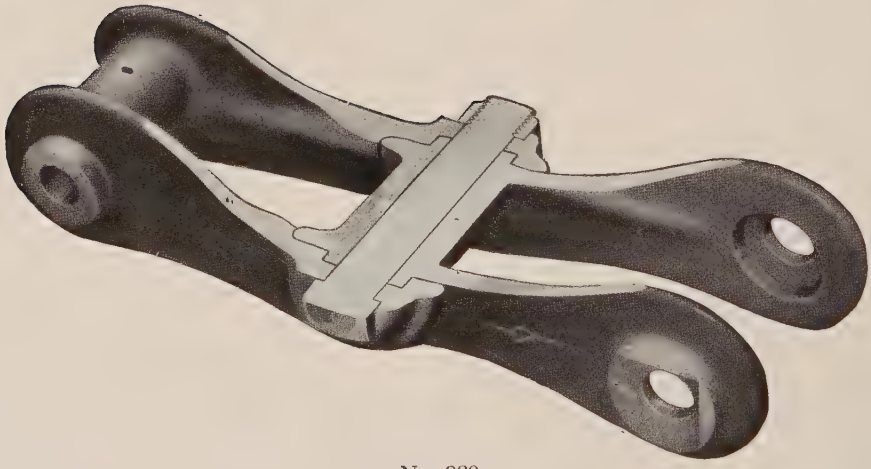
Pitch Diam., Inches	No. of Teeth	Price, Solid	Price, Split	CODE WORD
15.55	8	$18.40	$28.50	Lastimeros
17.32	9	20.80	30.90	Calmarono
19.20	10	23.40	33.50	Vocontia
21.18	11	26.00	38.10	Barrado
22.92	12	28.60	40.70	Calofriaba
24.88	13	31.40	43.50	Calomabais
26.66	14	34.60	48.60	Calorifero
28.60	15	37.50	51.50	Lastfracht
30.43	16	40.40	54.40	Calpestare
34.35	18	48.40	64.20	Vogesus
36.50	19	52.30	68.10	Brujos
38.16	20	56.10	74.60	Vogheral
43.87	23	67.20	85.70	Volagin

In telegraphing, use code word for size from list above, and follow with code word for bore, from code for bore of gears, page 372.

Interlocking Bolted Pintle Chain



No. 320
Not full size

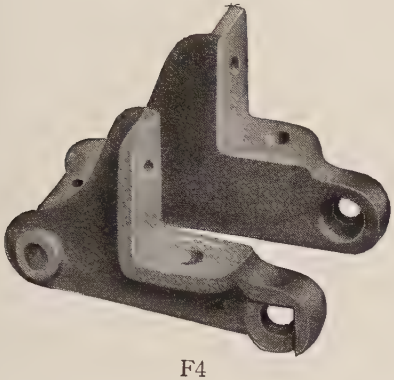


No. 320
Cross section

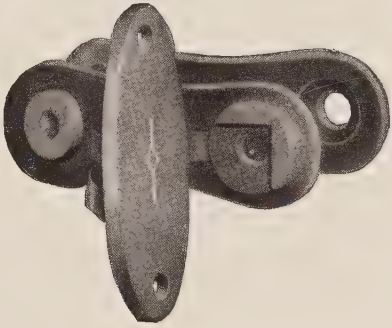
The construction and design of this style of chain obtains the greatest wearing surface and strength with minimum weight. The wearing surface is large and entirely on the cross bar and interlocking socket joints which are practically dust-proof. The chain articulates freely and easily, and is well adapted for any purpose common to link-belting. The construction allows the chain to be used with either side to the sprocket, or one side can be worn down and the chain reversed.

Price list on page 590.

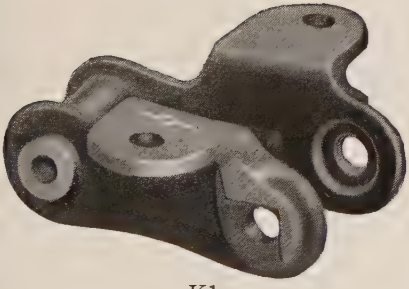
Attachments for Interlocking Bolted Pintle Chain



F4



GF



K1

K2

Interlocking Bolted Pintle Chain

The sizes named below are considered standard and are usually kept in stock. We can furnish other sizes and special attachments to order. Prices named on application.

We carefully fit all sprockets to standard chain before shipment. While the chains are designed to run on the sprockets named in list, we cannot guarantee the chain to run perfectly unless the sprockets were fitted to the size of chain on which they are to run. For extra heavy service we can furnish plate center sprockets.

Sprocket wheel lists on pages 562 to 564.

Price List, Subject to Discount

Number	Price per Foot, Plain Links	CODE WORD (See Note)	Approximate Links in 10 Feet	Average Ultimate Strength, Pounds	Runs on Sprocket Wheel of Chain No.
315	$0.92	Buldriana	52	10,000	67
320	1.16	Bulimaca	46	12,000	78
325	1.56	Bulinache	39	18,000	103

Attachment Links

Price per Foot, Subject to Discount

No. 315

AG	$1.10
F4	1.50

No. 320

AG	$1.40
F4	1.90
GF	2.16
G6 Rigid	1.78
K1	1.60
M5	1.78
RR	1.70

No. 325

AG	$1.90
F4	2.60
GF	2.78
G6 Rigid	2.64
K1	2.08
K2	2.14
M5	2.16

To find the working strength of chain, divide the ultimate strength given in the list above by factors given on page 537.

The code word given in the list above used alone, indicates plain chain. If all attachments are wanted, use this code word, give name of attachment and follow with the code word "Bujellada." If attachments are wanted at intervals, use the code word for size given in the list, follow by name of attachment and say "every third," "every fifth," and the like, to indicate how frequently the attachment is to be inserted.

Garbage Reduction Plants

We have furnished the necessary conveying machinery for a number of garbage reduction plants. In the plant shown above, the complete machinery equipment, including steel framework for the drags, was made in our shops.

Steel Elevator and Tower, with Tank

Our equipment for the manufacture of steel elevators, with structural steel frames, is very complete. Estimates upon application.

Interlocking Conveyor Chain

Fig. 45498. (*Landloping*)

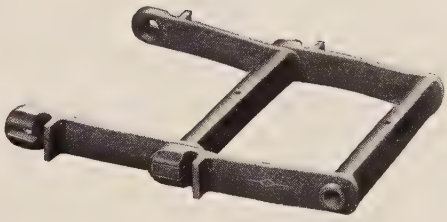
Cross Section

These Special Conveyor Chains are formed of links cast in one piece, having an interlocking joint. The joints can be sprung apart after removing the pin. The pin seats in the end bar are bored to a good fit with the pin and all is combined to make the joints practically dirt proof. The interlocking joints largely sustain the operating strain, so that but little stress comes directly upon the cross pin.

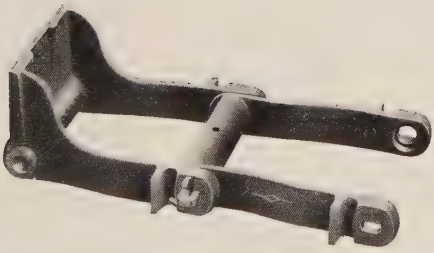
These chains are all provided with a large lubricant chamber into which graphite grease is forced at high pressure before chain leaves the factory. This is sufficient in quantity to insure lubrication under ordinary conditions for at least six months.

Interlocking Conveyor Chains

No. 452



No. 460



No. 450 with C1

No. 450 with C1 and C2

Interlocking Conveyor Chain

Price List, Subject to Discount

No.	Description	List Price, Per Foot	List Price, Pins Per 100	DIMENSIONS IN INCHES						Average Ultimate Strength, Pounds
				Pitch	Width		Height		Diam. of Pin	
					Inside	Over All	Side Bar	Over All		
With "T" Head Steel Pin and Cotter Pin										
450	Plain	$1.96	$25.00	6	4¼	8	1½	1½	⅝	24,000
450	C-1	2.70	25.00	6	4¼	8	1½	4	⅝	24,000
450	C-2	2.90	25.00	6	4¼	11½	1½	4	⅝	24,000
450	C-1 and 2	2.80	25.00	6	4¼	11½	1½	4	⅝	24,000
452	Wing—Works with 450	2.40	25.00	6	4¼	11¾	1½	1½	⅝	24,000
460	Plain	3.00	26.00	6	8	12	1½	1½	⅝	24,000
465	Wing—Works with 460	3.16	26.00	6	8	13¾	1½	1½	⅝	24,000
465	Spur	3.30	26.00	6	8	13¾	1½	4	⅝	24,000
467	Wing—Works with 460	3.60	26.00	6	8	17¾	1½	1½	⅝	24,000
480	Plain	4.00	44.00	8	11¼	16	2	2	¾	50,000
480	C-1	5.00	44.00	8	11¼	16	2	4	¾	50,000
480	Spur	4.20	44.00	8	11¼	16	2	4½	¾	50,000
485	Wing—Works with 480	4.40	44.00	8	11¼	19¾	2	2	¾	50,000
With "T" Head Steel Pin—Riveted										
461	Plain	$3.10	$23.00	6	9¼	12½	1½	1½	⅝	24,000
461	C-3	4.80	23.00	6	9¼	12½	1½	2¾	⅝	24,000
481	Plain	4.00	40.00	8	12	16	2	2	¾	50,000

To find the working strength of chain, divide the ultimate strength given in the list above by the factors given on page 537. Prices of sprockets quoted upon application.

Riveted Saw Dust and Refuse Chains

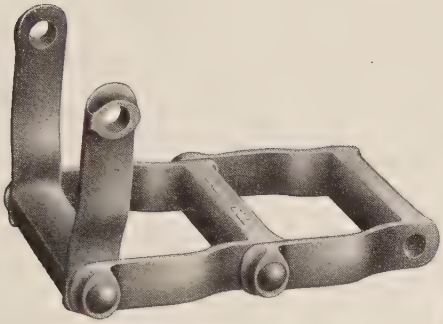
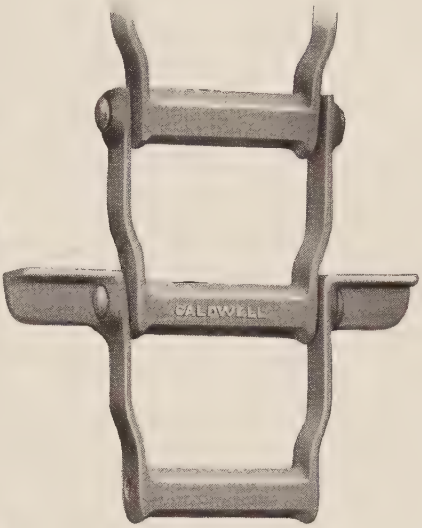
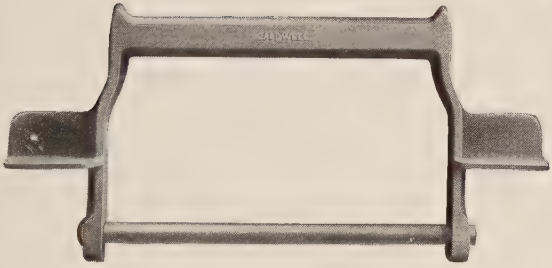


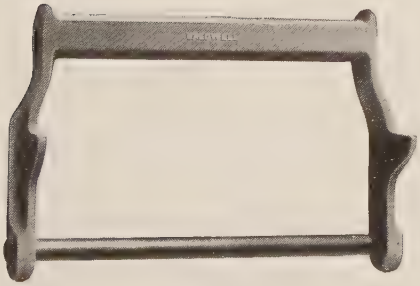
Fig. 45499. (*Landmacht*)



H-101, Wing



H-110, Wing
(Sometimes called G)



H-110 N
(Sometimes called NN, RR or Spur)

H-102, Flight

Riveted Saw Dust and Refuse Chains

Price List, Subject to Discount

Number	Pitch, Inches	Width, Inches	Height, Inches	Diam. Rivet, Inches	Average Ultimate Strength Pounds	Face Sprocket Inches	Price, per Foot	Price Rivets, per 100
H 97, Plain	5	6	1 3/8	9/16	24,000	3 3/8	$1.66	$12.00
H 97, Flight	5	6	3	9/16	24,000	3 3/8	1.80	12.00
H 97, Wing	5	11	1 3/8	9/16	24,000	3 3/8	2.26	12.00
H 98, Plain	5	7	1 1/2	5/8	25,000	4 1/4	1.96	16.00
H 100, Plain	5	9	1 3/8	9/16	24,000	6 1/4	1.96	19.00
H 100, Flight	5	9	2 3/4	9/16	24,000	6 1/4	2.10	19.00
H 101, Wing	5	12	1 1/2	5/8	25,000	4 1/4	2.56	16.00
H 102, Plain	5	9	1 1/2	5/8	25,000	6 1/4	2.26	21.00
H 102, Flight	5	9	2 3/4	5/8	25,000	6 1/4	2.40	21.00
H 102, N	5	9	2 3/4	5/8	25,000	6 1/4	2.40	21.00
H 103, Wing	5	14	1 1/2	5/8	25,000	6 1/4	2.70	21.00
H 104, Plain	6	7	1 1/2	5/8	25,000	4 3/8	1.96	16.00
H 104, C 1	6	7	4	5/8	25,000	4 3/8	2.70	16.00
H 104, DR 1	6	12	4	5/8	25,000	4 3/8	2.70	16.00
H 104, Flight	6	7	3	5/8	25,000	4 3/8	2.10	16.00
H 104, N	6	7	3 1/2	5/8	25,000	4 3/8	2.10	16 00
H 104, Scraper, 35	6	12	1 1/2	5/8	25,000	4 5/8	2.26	16.00
H 105, Wing	6	12	1 1/2	5/8	25,000	4 3/8	2.40	16.00
H 106, Plain	6	10	1 5/8	5/8	25,000	7 1/4	2.86	22.00
H 110, Plain	6	12	1 5/8	5/8	25,000	9 1/2	3.00	29.00
H 110, C 3	6	12	2 7/8	5/8	25,000	9 1/2	4.80	29.00
H 110, N	6	12	3 1/2	5/8	25,000	9 1/2	3.30	29.00
H 110, Wing	6	17 1/2	1 5/8	5/8	25,000	9 1/2	3.60	29.00
H 111, Flight	6	12	3	5/8	25,000	9 1/2	3.46	29.00
H 112, Plain	8	12	1 1/2	5/8	25,000	10 1/2	2.70	29.00
H 112, C 45	8	12	6	5/8	25,000	10 1/2	5.56	29.00
H 112, Flight	8	12	3 1/2	5/8	25,000	10 1/2	3.00	29.00
H 112, N	8	12	3 1/2	5/8	25,000	10 1/2	3.00	29.00
H 113, Plain	6	12	1 5/8	3/4	30,000	9 1/2	3.60	38.00
H 113, C 3	6	12	2 7/8	3/4	30,000	9 1/2	5.40	38.00
H 113, Flight	6	12	3	3/4	30,000	9 1/2	4.10	38.00
H 113, N	6	12	3 1/2	3/4	30,000	9 1/2	3.90	38.00
H 113, Wing	6	17 1/2	1 5/8	3/4	30,000	9 1/2	4.20	38.00
H 116, Plain	8	16	1 5/8	5/8	25,000	12	3.60	36.00
H 116, Flight	8	16	3	5/8	25,000	12	3.90	36.00
H 116, N	8	16	3 1/8	5/8	25,000	12	3.90	36.00
H 118, Plain	8	19	2 1/4	3/4	40,000	12	5.10	52.00
H 118, Flight	8	19	3 1/4	3/4	40,000	12	5.40	52.00
H 118, N	8	19	4 1/4	3/4	40,000	12	5.40	52.00
H 120, Plain	6	12	2	3/4	40,000	9 1/2	5.10	38.00
H 120, N	6	12	3 1/2	3/4	40,000	9 1/2	5.40	38.00
H 121, Flight	6	12	3 3/4	3/4	40,000	9 1/2	5.40	38.00
H 122, Plain	8	12	2	3/4	40,000	....	4.50	38.00
H 480, Plain	8	16	2	3/4	40,000	....	4.00	48.00
H 480, C ½	8	16	2 1/2	3/4	40,000	....	4.10	48.00
H 480, C 1	8	16	4	3/4	40,000	....	5.00	48.00

For price list of sprocket wheels, see page 597.

Sprocket Wheels for Riveted Saw Dust and Refuse Chains

Price List, Subject to Discount

Chain No. H-97

Face $3\frac{3}{8}$". Pitch 5"

Largest bore at regular price $3\frac{7}{16}$"

Pitch Diameter	No. Teeth	Price Solid	CODE WORD
10	6	$ 7.50	Lasianto
$11\frac{1}{2}$	7	8.60	Lasierung
13	8	9.70	Lasiocampe
$16\frac{3}{16}$	10	12.00	Laskaris
$19\frac{1}{4}$	12	14.30	Laspring
$20\frac{3}{4}$	13	15.45	Lenifico
$22\frac{3}{8}$	14	16.60	Lenified

Chain Nos. H-98, H-101

Face $4\frac{1}{4}$". Pitch 5"

Largest bore at regular price $3\frac{7}{16}$"

10	6	$ 8.00	Lassabit
$11\frac{1}{2}$	7	9.50	Lassabitis
13	8	11.00	Lassabunt
$16\frac{3}{16}$	10	14.00	Lassalle
$19\frac{1}{4}$	12	17.00	Lassamus
$20\frac{3}{4}$	13	18.50	Leniging
$22\frac{3}{8}$	14	20.00	Lenkbar

Chain Nos. H-100, H-102, H-103

Face $6\frac{1}{4}$". Pitch 5"

Largest bore at regular price $3\frac{7}{16}$"

10	6	$ 8.80	Lastimaba
$11\frac{1}{2}$	7	10.45	Lasterwelt
13	8	12.10	Lastfuhren
$16\frac{3}{16}$	10	15.40	Lastigheid
$19\frac{1}{4}$	12	19.80	Lastgeving
$20\frac{3}{4}$	13	22.55	Lasthebber
$22\frac{3}{8}$	14	25.30	Lenkung

Chain Nos. H-104, H-105

Face $4\frac{1}{4}$". Pitch 6"

Largest bore at regular price $3\frac{7}{16}$"

14	7	$10.70	Lasterstuk
$15\frac{11}{16}$	8	12.10	Latescence
$17\frac{1}{2}$	9	13.55	Latescent
$19\frac{3}{8}$	10	15.00	Latewake
$21\frac{1}{4}$	11	16.45	Lathered

Chain Nos. H-110, H-111, H-113

Face 9". Pitch 6"

Largest bore at regular price $3\frac{15}{16}$"

Pitch Diameter	No. Teeth	Price Solid	CODE WORD
$15\frac{11}{16}$	8	$19.60	Lasterhaft
$17\frac{1}{2}$	9	23.75	Lasterpfad
$19\frac{3}{8}$	10	27.90	Lenzuolo
$21\frac{1}{4}$	11	32.15	Lasterthat
$26\frac{7}{8}$	14	40.80	Lentous
$30\frac{3}{4}$	16	46.75	Lepidure

Chain No. H-112

Face $9\frac{1}{4}$". Pitch 8"

Largest bore at regular price $3\frac{15}{16}$"

$13\frac{3}{8}$	5	$16.50	Lepigone
16	6	20.00	Lepinois
$18\frac{7}{16}$	7	23.40	Lassantem
$20\frac{15}{16}$	8	26.45	Lathraea
$23\frac{3}{8}$	9	30.45	Lathwork
$25\frac{7}{8}$	10	34.75	Lathyrus

Chain Nos. H-116, H-118

Face 13". Pitch 8"

Largest bore at regular price $4\frac{7}{16}$"

$18\frac{7}{16}$	7	$28.00	Lassandsos
$20\frac{15}{16}$	8	34.00	Latialite
$23\frac{3}{8}$	9	41.00	Latibulabo
$25\frac{7}{8}$	10	48.00	Latibulize

Chain Nos. H-120, H-121

Face $8\frac{1}{2}$". Pitch 6"

$15\frac{11}{16}$	8	$18.80	Lierais
$17\frac{1}{2}$	9	21.50	Lierdicht
$19\frac{3}{8}$	10	24.20	Lierkast
$21\frac{1}{4}$	11	26.90	Lierkastje
$26\frac{7}{8}$	14	34.15	Lierkop
$30\frac{3}{4}$	16	39.00	Lierkoppen

An extra charge will be made for split sprockets.

For extra charge for larger than regular bores, see page 560.

For code for bores, use code for bore of gears, page 372.

Riveted Malleable Chain for Saw Mill Service

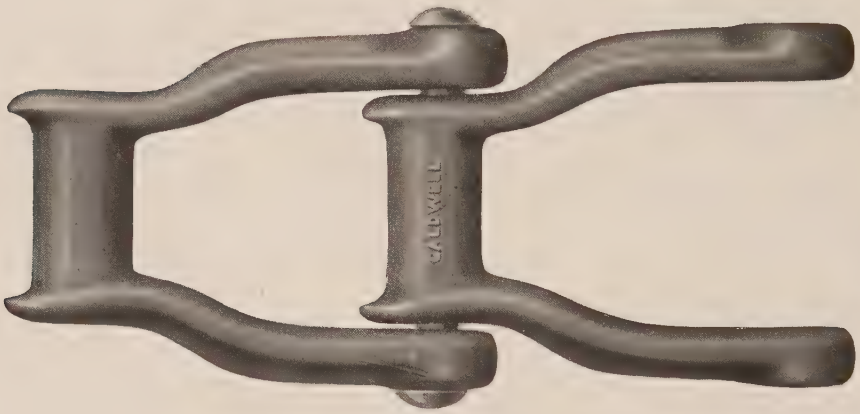


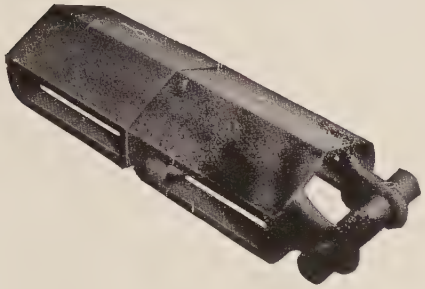
Fig. 45500. (*Landlord*)

Price List, Subject to Discount

STYLE OF LINK	PRICE PER FOOT									
	H60	H73	H74	H75	H78	H82	H87	H95	H108	H124
Plain	$0.76	$1.06	$0.82	$0.76	$1.12	$1.50	$1.96	$1.36	$1.50	$2.26
A	1.20	1.50	1.36	1.20	1.80	2.10	2.56	2.10	.....	3.00
A S	.....	1.50	1.36	1.20	1.80	.....	.....	.....	.....	.....
B	.....	.....	.....	.....	1.96	.....	.....	.....	.....	.....
B & F	1.36	1.96	1.66	1.20	1.96	2.26	2.70	2.26	2.40	3.00
D 5	.....	.....	.....	.....	1.80	.....	.....	.....	.....	.....
F 1	1.06	1.36	1.06	1.06	1.50	1.96	2.40	.....	.....	3.00
F 2	.....	.....	.....	.....	.....	2.10	2.56	1.80	2.10	3.00
N	1.06	1.36	1.06	.90	1.36	1.80	.....	.....	2.10	2.70
N 1	1.06	1.36	1.06	.90	1.36	1.80	.....	.....	.....	.....
N 1½	.....	.....	.....	.....	1.50	.....	.....	.....	.....	.....
N 3	.....	.....	.....	.....	.....	1.80	.....	.....	.....	3.30
N L	.....	.....	.....	.....	.....	.....	3.60	.....	.....	4.50
Price Rivets, per 100	$2.80	$5.10	$4.20	$3.00	$5.20	$9.60	$9.00	$6.70	10.00	20.00
Approximate Links in 10 ft.	52	51	46	46	46	39	30	30	25½	30
Works on Sprockets of Link Belt Number	77	H73	88	H75	88	103	H87	95	108	124
Average Ultimate Strength—pounds	7000	14000	10000	7000	16000	21000	23000	16000	21000	30000
Width, inches	2½	3⅜	2⅞	2¾	3⅜	3⅝	4	4	5	4⅝
Height, inches	¾	1⅛	1	¾	1⅛	1¼	1⅜	1¼	1¼	1 9/16
Diameter Rivet	5/16	7/16	⅜	5/16	½	9/16	⅝	½	9/16	¾

For price list of standard sprockets, see pages 560 to 564.
Prices of H-73, H-75 and H-87 sprockets on application.

Transfer Chains



No. 500. (*Acketon*)

Roof Top Transfer Chains

30 links in 10 feet. Working strain, 2,000 pounds. List price per foot, subject to discount, $1.30

No. 810. (*Acknow*)

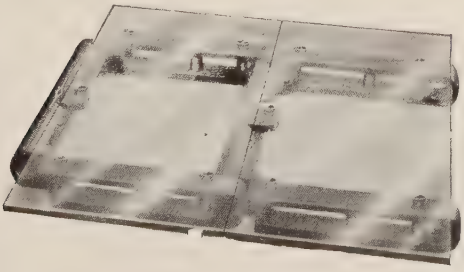
The No. 810 chain is superior to any chain made for lumber transfer. It is made in coupler form, the links being coupled with malleable pins, and it is detachable at every joint.

30 links in 10 feet. Working strain 3,000 pounds.

List price, per foot, subject to discount.....$1.60

Flat Top Transfer Chain

No. 815 chain is composed of malleable link and pin and steel flat top, which is riveted to the link as shown in transparent cut. This is an excellent transfer chain. Pitch 6 inches. Working strain, 3,000 pounds.



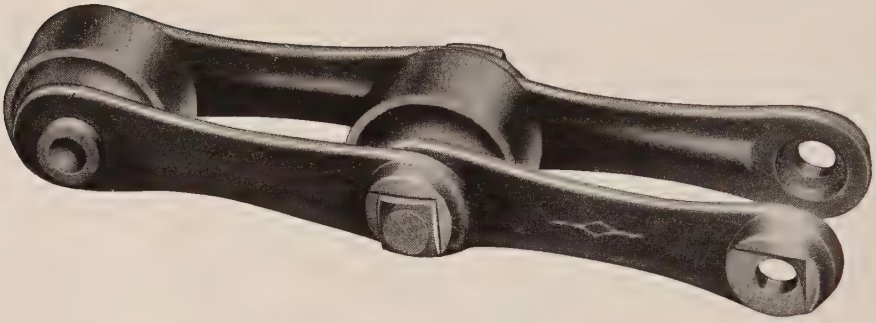
No. 815. (*Lastwagen*)

Price List, Subject to Discount

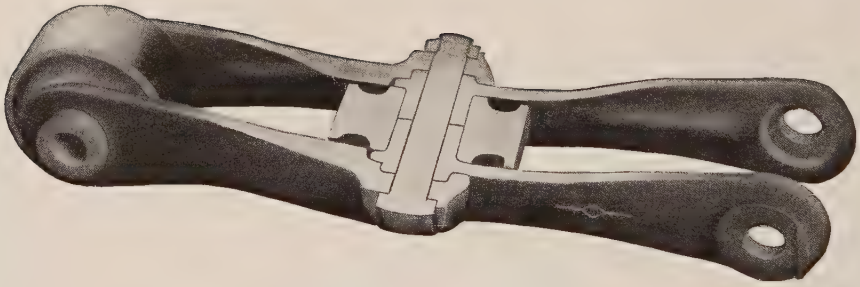
With 8 inch plate	$4.00
With 10 inch plate	4.40
With 12 inch plate	4.80
With 16 inch plate	5.20

Prices for Sprocket Wheels upon application.

Interlocking Bolted Roller Chain



No. 194.—Not full size.



No. 194.—Cross section

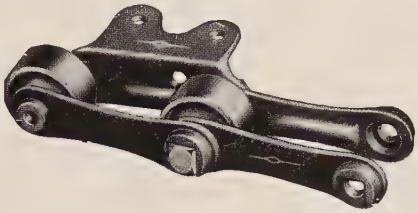
The views of this roller chain show its great wearing surface and strength, with minimum weight. The turned rollers prevent a great deal of friction. The interlocking socket joints are practically dust proof, and the rollers are easily replaced, making an old chain practically as good as new.

Price list on page 602.

For kinds of attachments, see pages 601 and 602.

Attachments for Interlocking Bolted Roller Chain

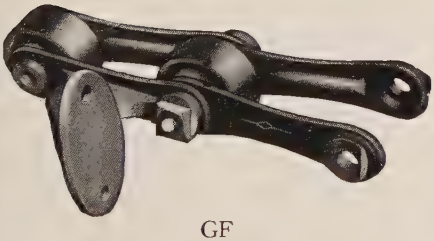
A1—With Outside Roller



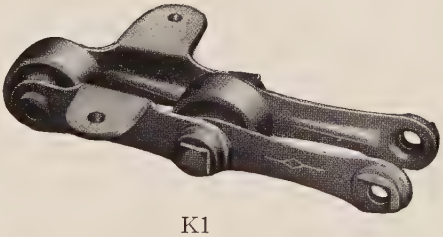
A2

G6

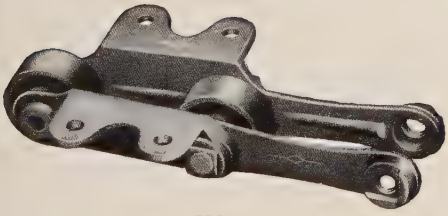
G60



GF



K1



K2

M5

T1

Interlocking Bolted Roller Chain

Price List, Subject to Discount

Chain No.	Price per Foot, Plain Links	CODE WORD	Work on Sprocket Wheels	Approx. Links in 10 Feet	ROLLERS			Average Ultimate Strength, Pounds
					Diam., Inches	Face, Inches	Kind	
183	$1.72	Borcellar	183	40	1 1/4	11/16	Turned	8,400
188	1.60	Bordatura	188	30	1 3/4	7/8	Turned	12,000
194	1.88	Bisbetico	194	30	2	7/8	Turned	14,000
196	1.54	Biscantare	196	20	2	7/8	Turned	14,000
197	2.24	Biscornear	197	20	2 1/2	1 1/8	Turned	20,000
205	3.06	Bisegnero	205	20	3	1 1/8	Turned	28,000
224	3.86	Lasharon	205	20	3	1 1/8	Turned	35,000

Price list of Sprocket Wheels, pages 603 and 604.

Attachments

Price List, per Foot, Subject to Discount

No. 183

A1	$1.88
AG	1.90
D5	1.94
GF	2.52
G6	2.62
K1	2.20
M5	2.10
T1	2.88

No. 188

A1	$1.78
A2	2.20
AG	1.80
GF	2.40
G6	2.32
K1	1.90
K2	2.50

No. 189

M5	$1.60

No. 194

A1	$2.14
A2	2.30
AG	2.30
GF	2.98
G6	2.96
K1	2.34
K2	2.60
M5	2.38
T1	3.20

No. 196

A2	$1.92
AG	1.80
GF	2.34
G6	2.12
K2	2.26
M5	1.70
T1	2.48

No. 197

A2	$2.84
AG	2.40
GF	3.30
G6	3.12
K2	3.36
M5	3.10
T1	3.60

No. 205

A2	$3.68
AG	3.30
GF	4.50
G60	4.40
K2	4.28
M5	4.00

No. 224

A2	$4.40
K2	4.80

Sprocket Wheels for Interlocking Bolted Roller Chain

Price List, Subject to Discount

No. 183

Largest bore at regular price $2\frac{15}{16}$"

Pitch Diam., Inches	No. of Teeth	Price Solid	Price Split	CODE WORD
6.00	6	$ 3.60	.....	Vultura
7.85	8	4.25	$ 6.50	Lastpost
8.70	9	4.55	6.80	Vulturnum
9.75	10	4.95	7.20	Vulturtius
10.68	11	5.30	8.30	Zabumba
11.60	12	5.75	8.75	Lasurmeise
12.56	13	6.10	9.10	Zaburro
14.41	15	7.00	10.00	Zaffatura
15.28	16	7.50	11.15	Lenitivo
16.29	17	7.80	11.45	Zafferano
18.24	19	8.75	12.40	Zagaglia
23.02	24	11.65	16.05	Zagalejo
23.90	25	12.25	16.65	Zampillo
27.77	29	15.00	20.20	Zampognare
30.55	32	17.50	23.45	Lastvieh

No. 188

Largest bore at regular price $2\frac{15}{16}$"

Pitch Diam., Inches	No. of Teeth	Price Solid	Price Split	CODE WORD
8.10	6	$ 4.30	.....	Lastpferd
11.75	9	6.50	$ 9.50	Lastpoort
12.92	10	7.15	10.15	Zenzovers
14.23	11	7.90	11.75	Zimbellare
15.40	12	8.70	12.55	Zolfatura
19.21	15	10.75	14.60	Niniaeuglia
20.55	16	11.50	16.35	Lasurfarbe
21.80	17	12.50	17.35	Miratrix
24.32	19	14.00	18.85	Mirrastes
26.70	21	15.75	21.70	Mirtidano

No. 188—Continued

Pitch Diam., Inches	No. of Teeth	Price Solid	Price Split	CODE WORD
28.15	22	$16.75	$22.70	Misaltado
34.40	27	21.00	28.05	Lastrone

No. 194

Largest bore at regular price $2\frac{15}{16}$"

Pitch Diam., Inches	No. of Teeth	Price Solid	Price Split	CODE WORD
7.98	6	$ 4.75	.....	Lievratico
9.20	7	5.35	.....	Mitichers
10.42	8	6.00	$ 9.00	Lastremos
12.85	10	7.80	10.80	Mitigamus
14.10	11	9.00	12.85	Mitologo
15.40	12	9.80	13.65	Mitregent
17.95	14	11.90	15.75	Mitriava
19.17	15	12.60	16.45	Mobiliter
20.42	16	13.75	18.60	Mocadero
21.72	17	14.75	19.60	Moccolino
24.28	19	16.50	21.35	Moceabais
25.55	20	17.40	22.54	Lastschip
28.07	22	19.50	25.45	Mocetonas
30.55	24	21.75	27.70	Mochadura
35.63	28	25.50	32.55	Mochiler
38.08	30	27.50	34.55	Lastschiff
39.57	31	29.00	37.15	Modelado
40.65	32	30.00	38.15	Lasurstein
43.35	34	32.50	40.65	Lataanboom
45.72	36	35.00	44.25	Latafels
50.90	40	40.00	49.25	Latagao
52.23	41	41.00	51.40	Latastros
57.68	45	48.00	58.40	Latebamus
63.65	50	60.00	71.50	Latebra

Continued on next page.

For extra charge for larger than regular bores, see page 560. For code for bores see code for bore of gears, page 372.

Sprocket Wheels for Interlocking Bolted Roller Chain —Continued

Price List, Subject to Discount

No. 196

Largest bore at regular price $2\frac{15}{16}$″

Pitch Diam., Inches	No. of Teeth	Price Solid	Price Split	CODE WORD
10.20	5	$ 7.25	.....	Lievrade
11.95	6	7.75	.....	Lastvoller
13.83	7	8.60	.....	Lastthier
15.63	8	9.50	$14.45	Moderiamo
17.58	9	10.70	15.65	Modificara
19.60	10	12.00	16.95	Modiglione
21.38	11	13.30	19.60	Barock
23.18	12	14.80	21.10	Lievissima
25.02	13	16.00	22.30	Modoliamo
27.05	14	17.70	24.00	Lastrea
28.78	15	19.00	25.30	Modorraron
34.50	18	24.00	32.00	Latebrarum
36.30	19	26.00	34.00	Latebrosas
42.00	22	32.00	41.70	Latebroso

No. 197

Largest bore at regular price $3\frac{7}{16}$″

Pitch Diam., Inches	No. of Teeth	Price Solid	Price Split	CODE WORD
10.15	5	$ 7.00	.....	Lategada
12.00	6	8.00	.....	Lateiner

No. 197—Continued

Pitch Diam., Inches	No. of Teeth	Price Solid	Price Split	CODE WORD
15.60	8	$10.25	$15.20	Lateinisch
17.57	9	11.80	16.75	Lievigheid
19.31	10	13.20	18.15	Latemment
21.25	11	15.00	21.30	Latency
23.18	12	16.35	22.65	Lateness
24.94	13	18.50	24.80	Latentibus
26.67	14	20.60	26.90	Laterales
28.74	15	22.60	28.90	Laterality
34.57	18	30.00	38.00	Laterandam
47.80	25	49.00	58.70	Lieverdjes

Nos. 205 and 224

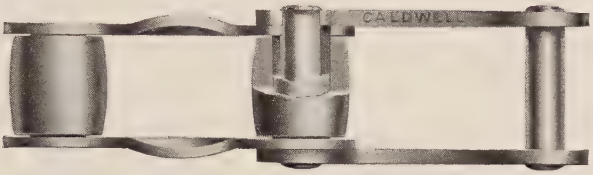
Largest bore at regular price $3\frac{15}{16}$″

15.70	8	$13.00	$17.95	Lateranos
25.14	13	23.00	29.30	Laterantem
36.55	19	37.00	45.00	Latercolo
49.60	26	57.00	68.55	Laterculi

For extra charges for larger than regular bores, see page 560. For code for bores, see code for bore of gears, page 372.

E-C Roller Drive Chains

Fig. 45501. (*Laqueator*)



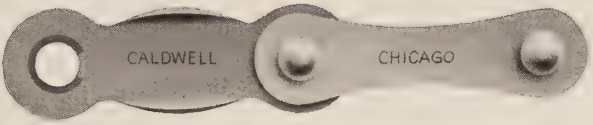


Fig. 45502. (*Laqueatura*) Plain Coupler

Fig. 45503. (*Laqueavero*) Offset Coupler

This chain is suitable for driving purposes at speeds too high for detachable link belting, and with heavier loads. It is designed to run on sprocket wheels of standard detachable chain, but the teeth should be ground to fit the chain for satisfactory service.

The pins and bushings are of case hardened steel. The rollers are of either malleable iron or steel, as ordered. Side bars are steel. Malleable rollers furnished, except for No. EC-62, unless steel rollers are ordered. EC Chain is riveted up in standard shipping lengths, as given in the list, unless otherwise ordered. With each length one plain coupler is furnished, without extra charge. An offset coupler permits the chain to be shortened or lengthened by one link. Offset couplers are only furnished when ordered, at regular prices.

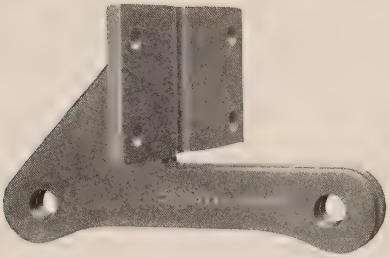
Price List, Subject to Discount

Size	Approximate Links in 10 Feet	Average Pitch of Standard Chain, in Inches	Average Ultimate Strength, Pounds	Runs on Wheels No.	Standard Length in Links	Price per Foot		Couplers Price, Each	CODE WORD
						Malleable Rollers	Steel Rollers		
EC-62	73	1.654	7,000	62	72	.....	$1.34	$0.28	Largivano
EC-88	46	2.609	11,000	88	70	$0.96	1.32	.30	Largitudo
EC-103	39	3.075	11,500	103	60	1.10	1.70	.46	Larginutur
EC-114	37	3.250	20,000	114	40	2.10	2.62	.84	Largitos

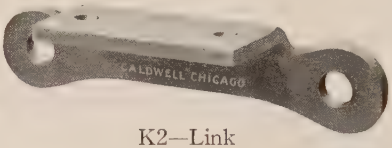
For price list of sprocket wheels see pages 562 to 564. Always specify that the sprockets are to be used with EC Chain, so that the teeth may be ground to fit.

Ice Chain

Plain Chain



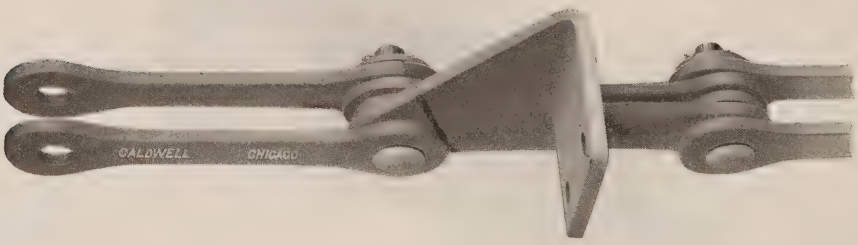
F4—Steel



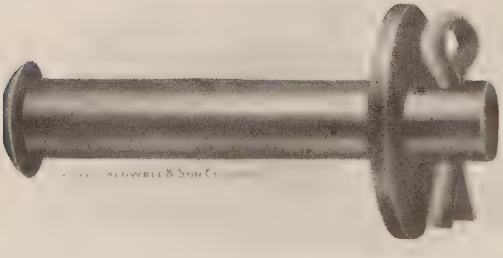
K2—Link
K2 Attachment is made up of two of these links

X—Malleable Iron

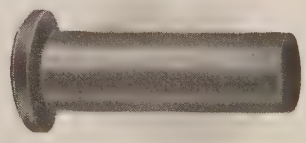
N—Malleable Iron



F2—Steel



Chain Pin



Chain Rivet

Ice Chain—Continued

Price List, Subject to Discount

Pitch, Inches	SIDE BARS		Diameter of Pin, Inches	Price, Per Foot	*CODE WORD
	Thickness, Inches	Width, Inches			
†3 9/32	5/16	1 1/2	1/2	$1.40	Laserwort
6	1/4	1 1/2	9/16	.80	Alpeos
6	5/16	1 1/2	9/16	.90	Alyzea
6	3/8	1 1/2	9/16	1.00	Alpfuss
6	3/8	1 1/2	5/8	1.10	Lastimador
6	7/16	1 1/2	9/16	1.20	Alpgras
6	7/16	1 1/2	5/8	1.30	Lastimadas
6	1/2	1 1/2	5/8	1.40	Lastimaron

*These code words used alone indicate plain chain. If attachments are wanted at intervals, use this code, give code word for attachment from list below and say "every fourth," "every sixth," and the like, to indicate how frequently the attachment is to be inserted.

†Hog Scraper Chain.

Attachments for Ice Chain

The price for the attachments, assembled in the chain, includes the extra cost of the attachment link and the assembly of the link in the chain, and proper deduction is made for the plain links in place of which the attachment link is assembled. In figuring price of chain with attachments, figure the price of the plain chain for the total length of chain including attachments, and to this price add the extra charge for the attachment links required.

The price of the attachment links only, not assembled, does not include chain pins or rivets.

Price List, Subject to Discount

Attachment	Price Each, Assembled in Chain (See above)	Price Each, Attachment Only, Not Assembled	CODE WORD
F-2 (Steel)	$0.90	$1.00	Lucrionem
F-4 (Steel)	1.80	2.00	Lucrionis
K-2 (Steel)	1.80	2.00	Lucrosarum
K-2 Half only	.90	1.00	Lucrose
N (Malleable)	1.90	1.40	Lucrosos
X (Malleable)	1.90	1.40	Lucrosum

Sprocket Wheels for 6-inch Pitch Ice Chain

Price List, Subject to Discount

Pitch Diameter, Inches	No. of Teeth	Price	Remarks	CODE WORD
19 7/16	5	$10.00	Solid teeth, plate center	Althorn
23 3/16	6	11.20	Solid teeth, plate center	Althibas
23 3/16	6	30.00	Inserted teeth-plate center	Alpicola
30 3/4	8	19.80	Solid teeth, spoke center	Alpicos
34 9/16	9	24.30	Solid teeth, spoke center	Alpigno
38 3/8	10	29.15	Solid teeth, spoke center	Alpique
42 3/16	11	34.30	Solid teeth, spoke center	Alpista
46	12	42.00	Solid teeth, spoke center	Alpratte

Inserted-Tooth Sprocket Wheels for Ice Chain

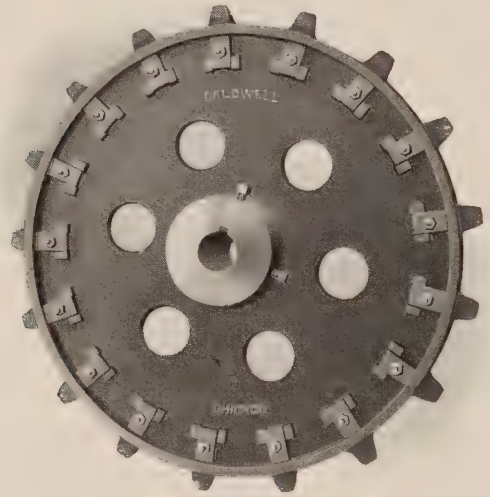


Fig. 45504. (*Laserspitz*)

Inserted Tooth Sprocket Wheels have chilled teeth, bolted in place, and easily removable. In case any of the teeth become worn or broken, replacement can be made at very little expense and without disturbing the chain or removing the sprocket from the shaft.

Prices on Inserted Tooth Sprockets of other sizes than those named in list on page 607 will be quoted upon application.

Special Steel Chains

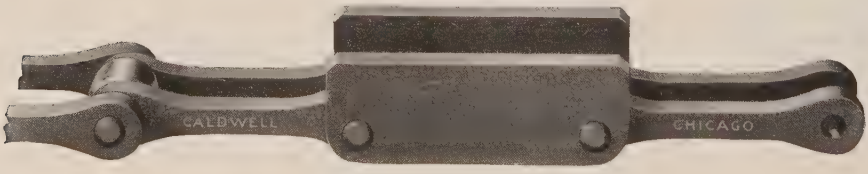


Fig. 45505. (*Luctisonos*)

Ice Chain Links can be assembled in many ways, with and without rollers, to form special chains for light and medium heavy conveyors. The type shown above has a turned steel roller and is made with a special pusher link. Prices of this and other types will be quoted upon application.

Heavier Steel Chains are shown on pages 610 and 611.

Steel Bushed Roller Chain

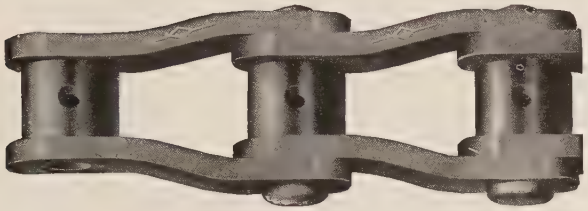


Fig. 45506. (*Laquearium*)

Fig. 45507. (*Laqueandos*)

A very satisfactory drive chain suitable for higher speeds and much heavier loads than the corresponding size of detachable chain.

Price List, Subject to Discount

Number of Chain	Price, per Foot	Approximate Links in 10 Feet	Works on Sprocket Wheel	Average Ultimate Strength, Pounds	CODE WORD
506	$1.80	52	57–67	8,100	Ripiaban
508	2.20	46	78–88	9,300	Ripiadoras
522	2.70	46	78–88	13,800	Ringranano
525	3.30	39	103	17,600	Ringranare
535	4.60	37	114	27,000	Ringvano

Steel Thimble Roller Chains

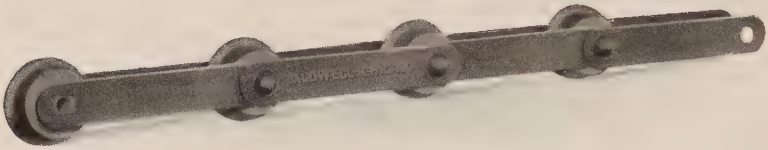


Fig. 45508. (*Luctitabas*)

Straight Side Bars, C. I. Flanged Rollers, and Style No. 1 Case Hardened Steel Bushing

Fig. 45509. (*Luctisonum*)

Offset Side Bars

Steel Thimble Roller Chains are particularly suitable for heavy elevators and conveyors. They are made in longer pitches than the usual malleable chain. The rollers can be made either of cast iron, chilled cast iron or steel and with or without flanges. Attachments for flights and buckets of various styles can be furnished.

The list on the next page gives a few of the sizes and styles which we have made. Our equipment of tools and dies is very complete and it is generally possible to combine parts to make almost any style and strength of chain which may be required.

Prices will be quoted upon application, depending upon the quantity ordered and made up at one time and with the style of attachments required.

Steel Thimble Roller Chains

Styles of Rollers

No. 1—Cast Iron, Solid, Chilled Face
No. 1A—Same as No. 1, with Self Oiler

No. 2—Steel, Turned Face

No. 3—Cast Iron, Chilled Face

No. 4—Cast Iron, Turned Face

Styles of Bushings

No. 1—Steel, Ends Milled

No. 2—Steel, Ley Chain Type

Styles of Pins

No. 1—End Milled, Flat on Both Sides

No. 2—Plain, with Hole for Cotter

No. 3—End Milled Flat on One Side only

No. 4—Ends Turned to be riveted

Dimensions, Inches

No. of Chain	Pitch	Side Bars		Rollers			Bushings		Pins			Remarks
		Thickness	Height	Diameter	Total Width	Style (See above)	Diameter	Style (See above)	Diameter	Greatest Length	Style (See above)	
B-2609	3 1/8	5/16	1 3/8	1 3/4	1 5/16	4	25/32	2	1/2	3 3/8	2	Detachable, Offset Side Bars
C-3273	4	3/16	1 1/4	2	1 15/32	1	3/4	1	1/2	2 3/4	1	Riveted
C-2993	6	3/8	2 1/2	2 11/16	1 7/16	2	1 1/16	1	7/8	3 1/4	2	Riveted
C-3609	6	3/8	2	2 1/2	1 11/16	2	1 1/4	1	7/8	4 1/2	1	Riveted
M-138	6	3/8	2	3	1 9/16	4	1 1/8	2	3/4	4 1/8	2	Detachable, Offset Side Bars
B-2200	6	1/2	2	3	1 1/2	4	1 1/8	2	3/4	4 5/8	2	Detachable, Offset Side Bars
C-3474	6	3/8	2	2 1/4	1 1/4	3	7/8	1	7/8	3 3/8	1	Detachable
C-3271	9	3/8	2 1/2	3 1/4	1 9/16	3	1 1/4	1	7/8	4 1/8	1	Riveted
C-3042	9	3/8	2 1/2	3	2 3/16	3	1 1/2	1	1	5	1	Detachable
M-269	9	3/8	2 1/2	3 1/2	2 9/16	1	1 1/4	1	7/8	4 11/16	4	Riveted
C-3272	12	3/8	2 1/2	3 1/4	1 9/16	3	1 1/4	1	7/8	4 1/8	1	Riveted
S-387	12	5/16	2 1/2	4	2 7/16	1A	1 1/4	1	7/8	4 1/8	1	Riveted
S-393	12	3/8	2 1/2	4	2 7/16	1A	1 1/4	1	7/8	4 1/8	1	Riveted
S-362	12	3/8	2 1/2	5	2 11/16	1A	1 1/4	1	7/8	4 5/8	1	Detachable
B-1671	12	5/16	2	3	1 3/8	4	1 3/16	2	3/4	3 1/4	2	Riveted
C-3047	12	3/8	2 1/2	4	2 7/16	1A	1 1/2	1	1	5 1/4	1	Detachable
C-3617	12	3/8	2 1/2	5	2 15/16	1A	1 1/2	1	1	5 7/8	1	Detachable
C-3329	18	5/8	3	4	2 1/4	3	1 3/4	1	1 1/4	6 1/8	1	Detachable
C-2473	18	3/8	3	5	3	1A	1 3/4	1	1 1/4	6	1	Detachable, with Keeper

All chains have straight side bars, except those marked Offset.

Oak-Tanned Leather Belting

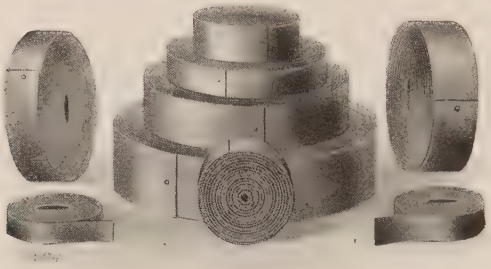


Fig. 45510. (*Bouncer*)

Leather Belting is made in a great number of widely differing grades, both in quality and weight. We maintain strictly the grades of belt sold by us, designated as follows:

BEST—A strictly short lap oak tanned belt of full weight.

EXTRA—A very good quality of belt, and suitable for all ordinary purposes.

REGULAR—A low priced belt, for use where the work is not severe, but by no means the cheapest grade.

We can also furnish Waterproof Leather Belt, for use in damp places.

Price per Lineal Foot for Single Belt, Subject to Discount

Width, Inches	Price per Foot	CODE WORD	Width, Inches	Price per Foot	CODE WORD	Width, Inches	Price per Foot	CODE WORD
½	$0.12	Basculas	6	$1.44	Boyhood	25	$6.00	Brandiller
⅝	.15	Barralet	6½	1.56	Boyish	26	6.24	Brandish
¾	.18	Baselard	7	1.68	Brabble	27	6.48	Brandling
⅞	.21	Baselle	8	1.92	Brace	28	6.72	Brandrith
1	.24	Boundary	9	2.16	Bracelet	29	6.96	Basfluit
1¼	.30	Bounteous	10	2.40	Brachial	30	7.20	Brangling
1½	.36	Bountiful	11	2.64	Bracing	32	7.68	Braquer
1¾	.42	Bounty	12	2.88	Brackish	34	8.16	Brassage
2	.48	Bouquets	13	3.12	Brag	36	8.64	Brassier
2¼	.54	Bourdon	14	3.36	Braggart	38	9.12	Bravado
2½	.60	Bourgeois	15	3.60	Bragless	40	9.60	Bravement
2¾	.66	Bourse	16	3.84	Brahmin	42	10.08	Bashaw
3	.72	Boutique	17	4.08	Braiding	44	10.56	Bravery
3¼	.78	Bouverie	18	4.32	Braillard	46	11.04	Basiabo
3½	.84	Bouvillon	19	4.56	Brainless	48	11.52	Brawler
3¾	.90	Bovine	20	4.80	Bramble	50	12.00	Baurat
4	.96	Bowable	21	5.04	Brancard	52	12.48	Baurecht
4½	1.08	Bowery	22	5.28	Branch	54	12.96	Bauriss
5	1.20	Bowing	23	5.52	Branchage	56	13.44	Baustoff
5½	1.32	Bowler	24	5.76	Branching	60	14.40	Bavalite

Double belts twice the price of single. In telegraphing add code word Lapzale for double belt.

Extra heavy belts, extra prices.

Horse-power of Single Leather Belting

The following table gives the horse-power that may be transmitted by open single belts to pulleys running 100 R. P. M., the size of the driving and driven pulley being equal.

Diam. of Pulley	WIDTH OF BELT, INCHES													
	2	3	4	5	6	8	10	12	14	16	18	20	22	24
6	.44	.64	.85	1.1	1.3	1.7	2.1							
7	.49	.71	.99	1.2	1.5	2.0	2.5	3.0						
8	.56	.85	1.1	1.4	1.7	2.3	2.8	3.4						
9	.65	.98	1.3	1.6	1.9	2.6	3.2	3.8						
10	.70	1.1	1.4	1.7	2.1	2.8	3.5	4.2	4.9					
11	.78	1.2	1.6	1.9	2.3	3.1	3.9	4.7	5.5					
12	.85	1.3	1.7	2.1	2.5	3.4	4.3	5.1	6.0	6.8				
13	.92	1.4	1.8	2.3	2.8	3.7	4.6	5.5	6.5	7.4				
14	.98	1.5	2.0	2.5	2.9	3.9	4.9	5.9	6.8	7.8	8.8			
15	1.1	1.6	2.1	2.7	3.2	4.2	5.3	6.4	7.4	8.5	9.5			
16	1.2	1.7	2.3	2.9	3.6	4.4	5.8	6.8	7.9	9.0	10.0	11.2		
17	1.2	1.8	2.5	3.1	3.7	4.8	6.0	7.2	8.4	9.6	10.7	12.0		
18	1.3	1.9	2.6	3.3	3.9	5.1	6.4	7.6	8.9	10.0	11.5	12.7	14.0	
19	1.4	2.1	2.8	3.5	4.1	5.3	6.7	8.0	9.4	10.7	12.0	13.4	14.7	
20	1.5	2.2	2.9	3.6	4.4	5.7	7.1	8.5	10.0	11.3	12.7	14.2	15.6	17.0
21	1.5	2.3	3.0	3.8	4.6	5.9	7.4	8.9	10.3	11.8	13.3	14.8	16.3	17.8
22	1.6	2.4	3.2	4.0	4.8	6.2	7.7	9.2	10.8	12.3	13.8	15.4	17.0	18.5
23	1.7	2.5	3.4	4.2	5.0	6.5	8.1	9.7	11.3	13.0	14.6	16.2	17.8	19.5
24			3.5	4.4	5.2	7.0	8.7	10.5	12.2	14.0	16.0	17.0	19.0	21.0
26			3.8	4.7	5.7	7.6	9.5	11.3	13.2	15.1	16.5	18.4	20.2	22.0
28			4.1	5.1	6.1	8.1	10.2	12.2	14.3	16.3	17.5	19.5	21.4	23.4
30			4.4	5.4	6.6	8.7	10.9	13.1	15.3	17.4	19.0	22.0	24.0	25.4
32			4.7	5.8	7.0	9.3	11.6	14.0	16.3	18.6	20.4	22.6	24.8	27.1
34			4.9	6.2	7.4	9.9	12.4	14.8	17.3	19.8	21.2	23.6	26.0	28.3
36			5.2	6.5	7.8	10.5	13.1	15.7	18.3	20.9	24.0	26.0	29.0	30.0
38			5.5	6.9	8.3	11.0	13.8	16.6	19.3	22.1	25.0	28.0	30.0	32.0
40			5.8	7.3	8.7	11.6	14.6	17.5	20.4	23.3	26.0	29.0	32.0	33.4
42			6.1	7.6	9.2	12.2	15.3	18.2	21.4	24.3	28.0	31.0	34.0	35.6
44			6.4	8.0	9.6	12.8	16.0	19.2	22.4	25.6	29.0	32.0	35.0	38.4
46			6.7	8.4	10.0	13.4	16.8	20.1	23.4	26.8	30.2	33.6	36.9	40.2
48			7.	8.8	10.4	14.	17.4	21.	24.4	28.	31.	35.	38.	42.
50			7.2	9.	10.9	14.6	18.2	21.8	25.4	29.	33.	36.	40.	43.6
54			7.8	9.8	11.8	15.6	19.6	23.6	26.4	31.2	35.	39.	43.	47.2
60			8.8	10.8	13.1	17.4	21.8	26.2	30.6	34.8	39.	44.	48.	52.4
66			9.6	12.	14.4	19.2	24.	28.8	33.6	38.4	43.	48.	53.	57.6
72			10.4	13.	15.6	21.	26.2	31.4	36.6	41.8	47.	52.	58.	62.8
78			11.4	14.2	17.	22.6	28.	34.	39.8	45.4	51.	57.	62.	68.
84			12.2	15.2	19.4	24.4	30.6	36.4	42.8	48.6	55.	61.	67.	73.

The horse-power transmitted by double belts is approximately $\frac{10}{7}$ of that given by the above table.

Rubber Belting

Fig. 45511. (*Bookworm*)

The quality of rubber belt depends on the weight of cotton duck used, the quality of rubber filling and covering, and the care used in manufacture. The grades of belt furnished by us may be depended upon to meet the specifications given.

BEST is made of strictly new rubber with 32 ounce duck and is intended for the severest service. It is fully guaranteed.

EXTRA is a good quality of belt with a little lighter duck than the Best Quality, but would compare favorably with many belts sold as best quality.

REGULAR is a good serviceable belt, not the cheapest grade, and suitable for use where the work is not severe.

Price List per Foot, Subject to Discount

Width, Inches	CODE WORD (for Width)	2-Ply (Lapwork)	3-Ply (Boorish)	4-Ply (Booted)	5-Ply (Bootikin)	6-Ply (Bootless)	7-Ply (Lardery)	8-Ply (Laqueca)
2	Bootman	$0.34	$0.39	$0.46	$0.58	$0.69	.....	.....
2½	Borable	.42	.48	.56	.70	.84	.....	.....
3	Boracous	.48	.55	.65	.81	.98	.....	.....
3½	Bordage	.57	.65	.76	.95	1.14	.....	.....
4	Bordelais	.61	.70	.82	1.03	1.23	$ 1.44	.....
4½	Border	.....	.78	.92	1.15	1.38	1.61	.....
5	Bordering	.....	.87	1.02	1.28	1.53	1.79	.....
6	Borne	.....	1.04	1.22	1.53	1.83	2.14	$ 2.44
7	Bornous	.....	1.22	1.43	1.79	2.15	2.50	2.86
8	Borough	.....	1.31	1.54	1.93	2.31	2.70	3.08
9	Borsella	.....	.....	1.73	2.16	2.60	3.03	3.46
10	Bosom	.....	.....	1.92	2.40	2.88	3.36	3.84
11	Bosquet	.....	.....	2.11	2.64	3.17	3.69	4.22
12	Bossage	.....	.....	2.30	2.88	3.45	4.03	4.60
13	Bosselage	.....	.....	2.50	3.13	3.75	4.38	5.00
14	Botanical	.....	.....	2.69	3.36	4.04	4.71	5.38
15	Botanist	.....	.....	2.88	3.60	4.32	5.04	5.76
16	Botanalogy	.....	.....	3.08	3.86	4.62	5.40	6.16
18	Bother	.....	.....	3.46	4.32	5.20	6.05	6.92
20	Bottling	.....	.....	3.84	4.80	5.76	6.72	7.68
22	Bottomless	.....	.....	4.22	5.28	6.34	7.38	8.44
24	Boucage	.....	.....	4.60	5.76	6.90	8.06	9.20
26	Bouche	.....	.....	.....	6.26	7.50	8.76	10.00
28	Boucherie	.....	.....	.....	6.72	8.08	9.42	10.76
30	Bouchon	.....	.....	.....	7.20	8.64	10.08	11.52
32	Boudoir	.....	.....	.....	7.72	9.24	10.80	12.32
34	Boudinage	.....	.....	.....	8.18	9.82	11.46	13.08
36	Bouffant	.....	.....	.....	8.64	10.40	12.12	13.84
38	Bougie	.....	.....	.....	.....	10.96	12.78	14.60
40	Bouillant	.....	.....	.....	.....	11.52	13.44	15.36
42	Boulanger	.....	.....	.....	.....	12.10	14.10	16.12
44	Boulder	.....	.....	.....	.....	12.68	14.76	16.88
46	Boulette	.....	.....	.....	.....	13.24	15.44	17.64
48	Boulevard	.....	.....	.....	.....	13.80	16.12	18.40

For table of horsepower of belting, see page 613.
For information regarding conveyor belt, see page 270.

Canvas Stitched Belting

This belt is made of several thicknesses or plies of cotton duck stitched lengthwise and painted. The paint protects the belt from injury by heat, cold, damp or steam, gas or acid fumes. Can be generally used instead of leather, cotton, or rubber belt and is better under some conditions. Very satisfactory for elevator belts and for conveyor belts where the material carried does not cut the fibre of the belt.

Price List per Foot, Subject to Discount

Width, Inches	CODE WORD (for width)	4-Ply (Laqueavit)	5-Ply (Laqueisme)	6-Ply (Laqueorum)	8-Ply (Laqueriez)	10-Ply (Lenitif)
1	Lattovaro	$0.20	.....	.....	.....	.....
1½	Lattucina	.30	.....	.....	.....	.....
2	Lattugario	.39	$ 0.49	$ 0.59	.....	.....
2½	Lattughina	.48	.60	.72	.....	.....
3	Lattugone	.57	.71	.86	.....	.....
3½	Latuerat	.65	.81	.98	.....	.....
4	Latuerimus	.74	.93	1.11	$ 1.48	.....
4½	Latuerunt	.81	1.01	1.22	1.62	.....
5	Laturarios	.90	1.13	1.35	1.80	.....
6	Laturarium	1.05	1.31	1.58	2.10	.....
7	Laturgo	1.20	1.50	1.80	2.40	.....
8	Laturorum	1.35	1.69	2.03	2.70	.....
9	Latusculis	1.49	1.86	2.24	2.98	.....
10	Latusculum	1.62	2.03	2.43	3.24	.....
11	Latwerge	1.76	2.20	2.64	3.52	.....
12	Laubaltar	2.05	2.57	3.08	4.10	$ 5.13
13	Laubapfel	2.15	2.69	3.23	4.30	5.37
14	Laubartig	2.31	2.90	3.47	4.62	5.78
15	Laubband	2.48	3.09	3.72	4.96	6.20
16	Laubbaum	2.64	3.30	3.96	5.28	6.60
18	Laubbett	2.97	3.72	4.46	5.94	7.43
20	Laubblatt	3.30	4.13	4.95	6.60	8.25
22	Laubdach	3.63	4.55	5.45	7.26	9.08
24	Laubdaches	3.96	4.95	5.94	7.92	9.90
26	Lauberhuhn	4.68	5.85	7.02	9.36	11.70
28	Laubfall	5.04	6.30	7.56	10.08	12.60
30	Laubfalles	5.40	6.75	8.10	10.80	13.50
32	Laubfink	5.76	7.20	8.64	11.52	14.40
34	Laubfinken	6.12	7.65	9.18	12.24	15.30
36	Laubfleck	6.48	8.10	9.72	12.96	16.20
38	Laubfrosch	7.41	9.27	11.12	14.82	18.53
40	Laubfutter	7.80	9.75	11.70	15.60	19.50
42	Larvaretis	8.19	10.25	12.29	16.38	20.48
44	Larvated	8.58	10.73	12.87	17.16	21.45
46	Larvationi	8.97	11.22	13.46	17.94	22.43
48	Larvatorum	9.36	11.70	14.04	18.72	23.40

Sizes not listed take the nearest higher size.

Charge for splice on endless belts. All belts 16 inches wide and under, seven feet is the minimum charge. Belts over 16 inches wide, the charge is to be the equivalent of five times the width of the belt.

Russell Cotton Belting

The Best Cotton Belt Manufactured

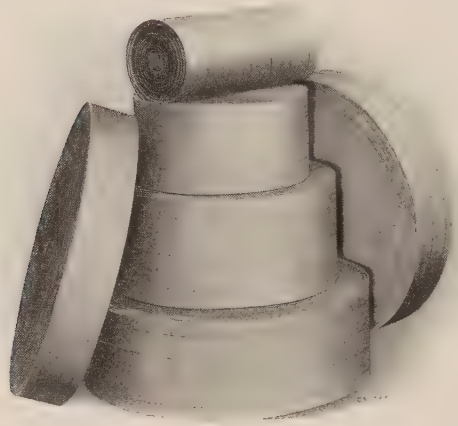


Fig. 45512. (*Brumair*)

Price List per Lineal Foot, Subject to Discount

Width. Inches	CODE WORD (for Width)	2-Ply (Brumal)	3-Ply (Brunette)	4-Ply (Brusher)	5-Ply (Brushware)	6-Ply (Brushwood)	8-Ply (Brusque)	10-Ply (Lemosin)
1	Brutalism	$0.04	$0.06	$0.09	$0.15	$0.20	.....	.
1½	Bruteness	.05	.07½	.11	.18	.24	.....	.
2	Brutishly	.06	.09½	.13	.21	.30	$0.36	. .
2½	Bruyere	.07½	.11	.15	.23	.32	.38	. . . .
3	Bryonia	.08½	.13	.18	.26	.34	.41	.....
3½	Bubble	.10	.15	.20	.29	.36	.45	.....
4	Bubbling	.11½	.17	.23	.31	.38	.50	.....
4½	Buccan	.13	.19	.26	.33	.41	.55	.....
5	Buccaneer	.14½	.21	.28	.36	.44	.58	$0.80
5½	Bucentaur	.16	.23	.30	.38	.47	.61	.85
6	Buckeye	.18	.25	.33	.41	.50	.65	.95
7	Buckram	.21	.29	.38	.48	.58	.75	1.10
8	Buckskin	.23	.33	.44	.55	.65	.85	1.20
9	Buckthorn	.26	.37	.50	.61	.73	1.00	1.40
10	Bucolic	.29	.42	.56	.69	.82	1.15	1.60
12	Budding	.35	.50	.66	.83	1.00	1.35	1.80
14	Budget	.43	.62	.78	.98	1.20	1.60	2.20
16	Buffalo	.49	.72	.90	1.15	1.40	1.95	2.45
18	Buffer	.57	.82	1.00	1.28	1.55	2.15	2.70
20	Buffeting	.61	.90	1.15	1.45	1.75	2.35	2.95
22	Buffoon	.65	1.00	1.35	1.65	1.95	2.60	3.25
24	Buffoonery	.69	1.10	1.55	1.85	2.16	2.85	3.60
26	Cab	.77	1.35	1.75	2.00	2.36	3.10	3.90
28	Cabaleur	.85	1.50	1.90	2.15	2.60	3.35	4.20
30	Cabalgador	.90	1.60	2.10	2.40	2.85	3.60	4.50
32	Lateritana	1.00	1.70	2.25	2.60	3.00	3.85	4.80
34	Lateritic	1.10	1.80	2.40	2.80	3.25	4.10	5.10
36	Laterizio	1.20	1.90	2.50	3.00	3.50	4.35	5.40
38	Laternchen	1.30	2.05	2.65	3.20	3.70	4.60	5.70
40	Lastescebas	1.40	2.15	2.80	3.40	3.90	4.85	6.00
42	Largitatis	1.50	2.25	2.90	3.60	4.05	5.10	6.30
44	Largition	1.60	2.35	3.00	3.75	4.20	5.45	6.60
48	Largitorem	1.80	2.50	3.20	4.00	4.80	5.80	7.20

Fig. 45513. (*Landmolche*)

Cut Belt Lacing

Rawhide or Tanned

Price List, Subject to Discount

In 100 foot Bundles

Width, Inches	Price per Bundle	CODE WORD
1/4	$2.50	Cloacario
5/16	3.00	Clocheton
3/8	3.75	Clopinames
7/16	4.50	Clairet
1/2	5.50	Cloturames
5/8	6.50	Clusinum
3/4	7.50	Cluthalite

Raw Hide Lace Leather Sides

(*Clypeatum*)

Price per square foot, subject to discount.....$0.60

Steel Belt Lacing

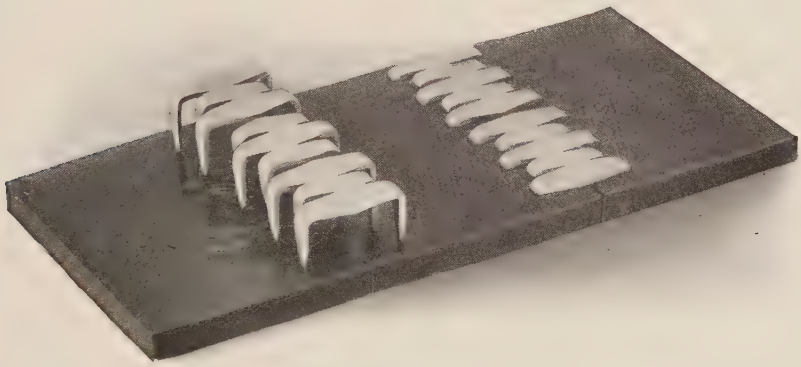


Fig. 45514. (*Cabalistic*)

The sharp points or spurs are driven through the belt and bent over or clinched. The fibres of the belt are not cut, thus preserving the full strength at the joint.

Price List, Subject to Discount

Per Box of 100 Inches, Assorted Widths

Size No.	Thickness of Belt, Inches	Price per Box	CODE WORD	Size No.	Thickness of Belt, Inches	Price per Box	CODE WORD
1100	1/16–1/8	$0.90	Lardiamo	113	5/16–3/8	$2.50	Lapstone
110	1/8–5/32	1.00	Lapwing	114	3/8–7/16	3.00	Lardner
110½	5/32–1/4	1.25	Lardivore	115	7/16–9/16	3.50	Lardure
111	3/16–1/4	1.50	Lardizabal	117	1/2–5/8	4.95	Larentalia
112	1/4–5/16	2.00	Lapsters	119	5/8–13/16	6.05	Laqueacao

Cast Iron Safety Set Collars

Fig. 45515. (*Ciseau*)
Solid

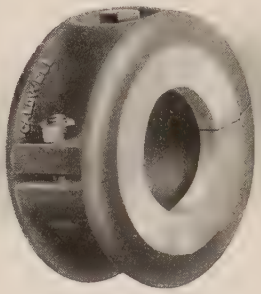
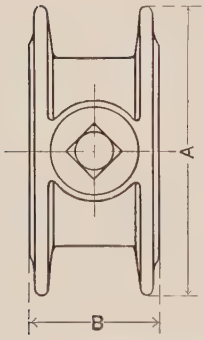


Fig. 45516. (*Landrock*)
Split



Solid safety set collars will be sent unless split collars are ordered.

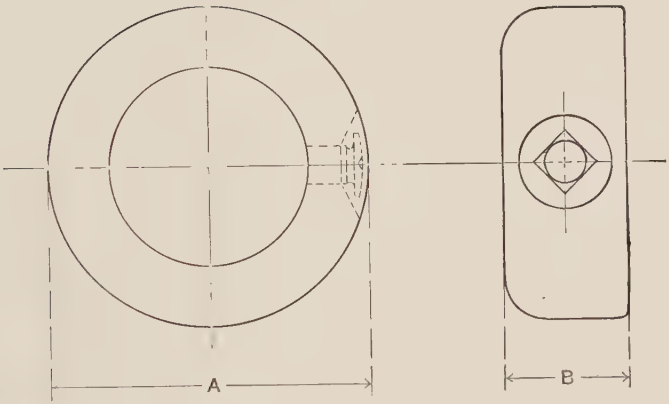
In telegraphing use code word for bore, and follow by code word to state whether solid or split collar is required.

Price List, Subject to Discount

Bore, Inches	Price, Each, Solid (Ciseau)	Price, Each, Split (Landrock)	CODE FOR BORE	DIMENSIONS, INCHES	
				A	B
15/16	$0.62	$0.93	Ciseleur	2 3/4	1 1/4
1	.65	.98	Cistercian	2 3/4	1 1/4
1 3/16	.80	1.20	Cistern	3 1/4	1 1/2
1 7/16	1.00	1.50	Citadel	3 5/8	1 5/8
1 1/2	1.05	1.58	Citation	3 5/8	1 5/8
1 11/16	1.20	1.80	Citizen	4 1/8	1 7/8
1 15/16	1.40	2.10	Citron	4 1/2	2 1/4
2	1.45	2.18	Civet	4 1/2	2 1/4
2 3/16	1.60	2.40	Civilian	4 7/8	2 1/4
2 7/16	1.80	2.70	Civility	5 1/4	2 3/8
2 11/16	2.10	3.15	Civilizing	5 7/8	2 1/2
2 15/16	2.40	3.60	Clayband	6 7/8	2 1/2
3	2.48	3.72	Clacking	6 7/8	2 1/2
3 3/16	2.70	4.05	Claimant	7 1/8	2 3/4
3 7/16	3.00	4.50	Clamber	7 1/8	2 3/4
3 11/16	3.30	4.95	Clameur	7 1/2	2 3/4
3 15/16	3.60	5.40	Clamminess	8	2 3/4
4 7/16	4.70	7.05	Clamorous	8 5/8	2 7/8
4 15/16	5.90	8.85	Clamping	9 3/4	3 1/4
5 7/16	7.20	10.80	Clancular	10 5/8	3 1/4
5 15/16	8.60	12.90	Clandestin	11 3/8	3 3/4
6 7/16	10.10	15.15	Clank	13 1/4	4 1/2
6 15/16	11.70	17.55	Clannish	14	4 3/4

Pressed Steel Safety Set Collars

Fig. 45517. (*Lavranca*)



These collars are not furnished split.

Price List, Subject to Discount

Diameter of Shaft, Inches	PRICE	CODE WORD	DIMENSIONS, INCHES	
			A	B
$\frac{15}{16}$	$0.62	Lavoravamo	$1\frac{3}{4}$	$\frac{13}{16}$
1	.65	Lavoravate	$1\frac{3}{4}$	$\frac{13}{16}$
$1\frac{3}{16}$	.80	Lavoteamos	$2\frac{1}{4}$	1
$1\frac{7}{16}$	1.00	Lavotearon	$2\frac{11}{16}$	$1\frac{1}{8}$
$1\frac{1}{2}$	1.05	Lavoteases	$2\frac{11}{16}$	$1\frac{1}{8}$
$1\frac{11}{16}$	1.20	Lavradeira	$2\frac{15}{16}$	$1\frac{5}{16}$
$1\frac{15}{16}$	1.40	Lavragem	$3\frac{5}{16}$	$1\frac{3}{8}$
2	1.45	Lavroffite	$3\frac{5}{16}$	$1\frac{3}{8}$
$2\frac{3}{16}$	1.60	Lavucchia	$3\frac{9}{16}$	$1\frac{3}{8}$
$2\frac{7}{16}$	1.80	Lawfully	$3\frac{13}{16}$	$1\frac{3}{8}$
$2\frac{11}{16}$	2.10	Lawfulness	$4\frac{1}{8}$	$1\frac{3}{8}$
$2\frac{15}{16}$	2.40	Lawgiver	$4\frac{3}{8}$	$1\frac{3}{8}$

Conical Base Compression Grease Cups

Fig. 45518. (*Landsache*)

Made entirely of drawn steel, and are practically unbreakable. Kept in stock with Regular Pipe Thread specified below. Optional Pipe Threads can be furnished if desired and specially ordered.

Price List, Subject to Discount

No.	Price, Each	CODE WORD	Capacity, Ounces	Inside Diameter, Inches	Regular Pipe Thread, Inches	Optional Pipe Thread, Inches
00	$0.50	Lemannus	1/3	1	1/8	1/4
0	.65	Lemargue	2/3	1 1/4	1/4	1/8
1	.80	Lembario	1	1 1/2	1/4	1/8–3/8
2	1.05	Lembosie	2	2	3/8	1/8–1/4
3	1.45	Lembrado	3 1/2	2 1/2	3/8	1/4–1/2
4	2.00	Lembranca	5	3	1/2	1/4–3/8

Spring Compression Grease Cups

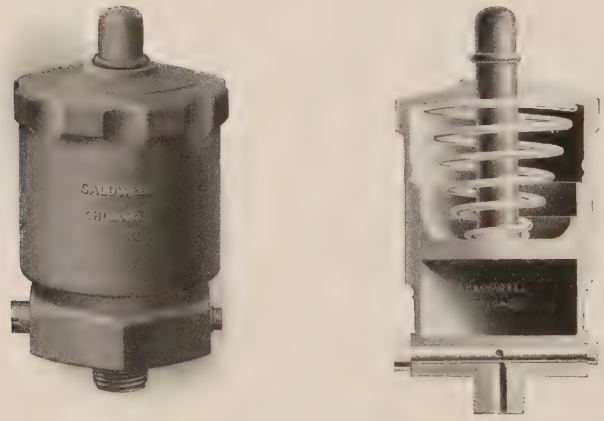


Fig. 45519. (*Clarinado*)

Price List, Subject to Discount

No.	All Iron, Painted, Each	CODE WORD	Diameter of Body, Inches	Capacity, Ounces	Size Shank, Pipe Thread, Inches
00	$1.70	Clarinet	1	1/3	1/4
0	1.90	Clashing	1 1/4	1	1/4
1	2.00	Clasper	1 1/2	1 1/2	3/8
2	2.10	Classic	2	3	3/8
3	4.20	Classical	2 1/2	4 1/2	1/2

Belt Clamps

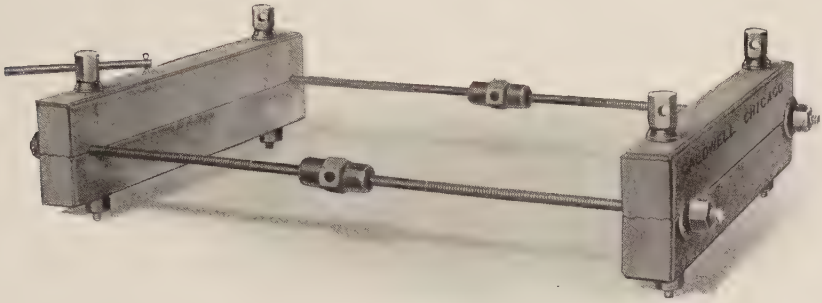


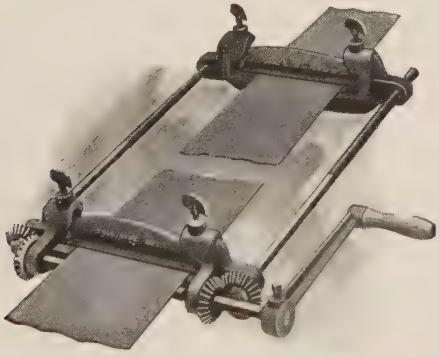
Fig. 45522. (*Landole*)

The frame of the above clamp is of rock maple with beveled corrugated jaws. The rods and bolts are of wrought iron, and screws are rapid pitch. This is a very good clamp.

Price List, Subject to Discount

No.	For Belt, Inches	Each	CODE WORD
270	6 to 12	$16.00	Cabrero
271	12 to 18	20.00	Cabrioleur
272	18 to 24	24.00	Cabstand
273	24 to 36	36.00	Cachalot

Hartford Patent Belt Clamp



The low sides of the two movable cams should be applied under the center of the thumb screws. A slight pressure of the thumb screws on the cam is sufficient, as the act of drawing the belt together causes the cams to roll, giving a pressure on the belt sufficient to hold it securely.

Fig. 45523. (*Landolphe*)

Price List, Subject to Discount

Width Belt, Inches	Weight, Pounds	Price	CODE WORD	Width Belt, Inches	Weight, Pounds	Price	CODE WORD
8	27	$20.00	Calefactum	20	95	$44.00	Calenturon
12	45	30.00	Calefatare	24	107	52.00	Caliendrum
16	59	36.00	Calentaba	28	149	60.00	Caligabat

Standard Horizontal Belt Tighteners

Rack and Pinion Type with Cast Iron Frame

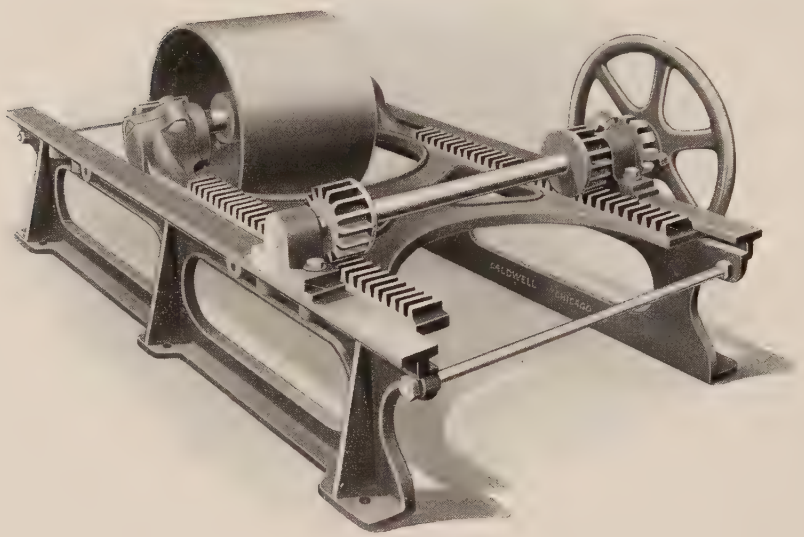


Fig. 45524. (*Caddies*)

Our standard horizontal tightener with cast iron frame, as shown above, is substantial and well proportioned. The pulleys are well balanced, and the tightener will be found suitable for all ordinary work.

We can furnish tighteners with pulleys having diameters and faces different from standard dimensions given below.

Price List, Subject to Discount

No.	Length of Adjustment, Feet	Size of Pulley		Diameter of Shaft	Price	CODE WORD
		Diam.	Face			
00	1½	12	9	$1\frac{7}{16}$	$ 75.00	Caddy
0	1⅔	18	12	$1\frac{11}{16}$	100.00	Cadeau
1	2	24	14	$1\frac{15}{16}$	140.00	Cadence
2	3½	28	20	$2\frac{7}{16}$	200.00	Cadeneta
3	4	30	26	$2\frac{11}{16}$	320.00	Cadenette
4	5	42	38	$2\frac{15}{16}$	600.00	Cadet

Standard Vertical Belt Tighteners

Rack and Pinion Type

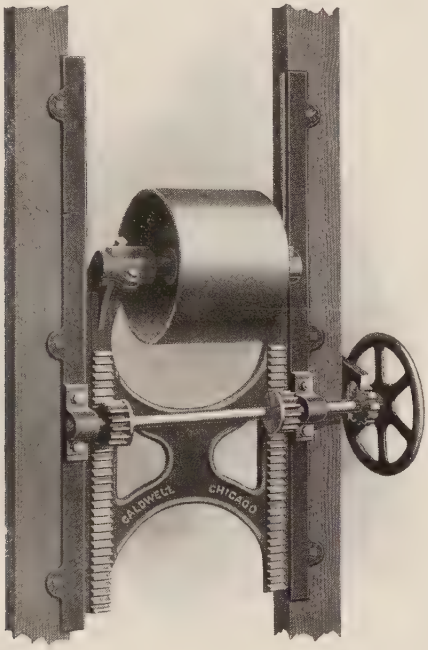


Fig. 45525. (*Cadetship*)

The cast iron guides and iron work furnished with this tightener are ready to attach to wooden supports.

We can furnish tighteners with pulleys having diameters and faces different from standard dimensions given below.

Price List, Subject to Discount

No.	Length of Adjustment, Feet	Size of Pulley		Diameter of Shaft, Inches	Price	CODE WORD
		Diam.	Face			
00	1½	12	9	$1\frac{7}{16}$	$ 60.00	Cadger
0	1⅔	18	12	$1\frac{11}{16}$	80.00	Cadillac
1	2	24	14	$1\frac{15}{16}$	128.00	Cadmean
2	3½	28	20	$2\frac{7}{16}$	164.00	Cadranier
3	4	30	26	$2\frac{11}{16}$	240.00	Cadrature
4	5	42	38	$2\frac{15}{16}$	500.00	Caducante

Swinging Frame Belt Tightener

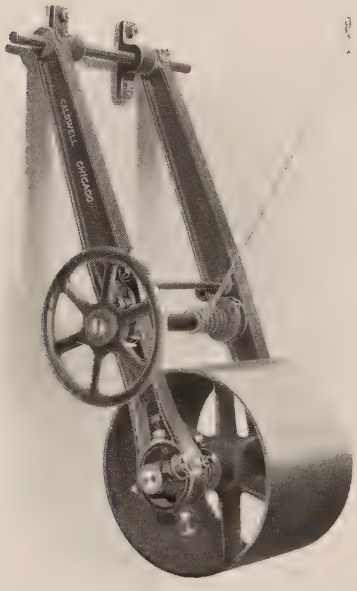


Fig. 45526. (*Caducity*)

The pressure on the belt is obtained by turning the shaft, around which is wound the small wire rope shown. The pawl and ratchet hold the tightener in place. Pulleys are always made with straight face unless otherwise specified.

The sizes given below are standard, but the size of pulleys may be varied to meet special requirements.

Price List, Subject to Discount

No.	Radius of Swing, Center to Center of Shafts, Ft.	Size of Pulley	Price	CODE WORD	No.	Radius of Swing, Center to Center of Shafts, Ft.	Size of Pulley	Price	CODE WORD
00	2	10 x 6	$36.00	Caducous	1	4	18 x 12	$86.00	Cagmag
		10 x 8	42.00	Cafard			20 x 15	106.00	Cagnard
		10 x 10	48.00	Cafarderie			24 x 18	132.00	Caillette
0	3	12 x 6	50.00	Cafardise	2	5	28 x 18	168.00	Cairns
		14 x 9	57.00	Caffre			28 x 20	180.00	Cairngorm
		16 x 12	66.00	Caftan			30 x 24	200.00	Caissons
							30 x 26	236.00	Caitiff

Special Heavy Belt Tightener

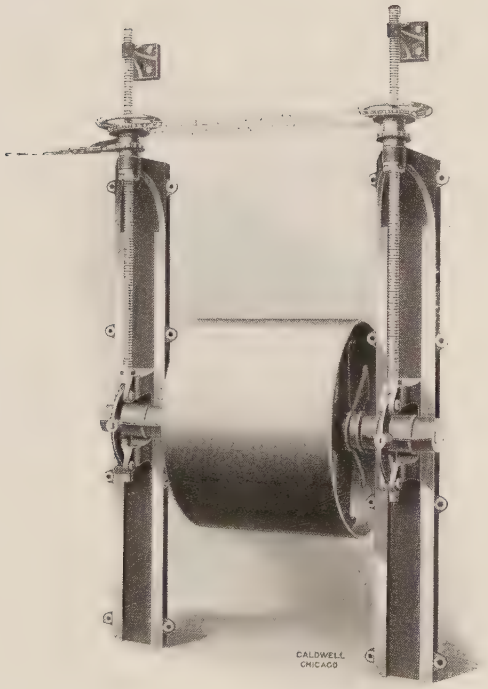


Fig. 45527. (*Cajole*)

This type of tightener is intended for the heaviest service. The thrust of the take-up screws is taken by ball bearings, and the ratchet handle gives a long leverage in operating the screws. It will be noticed that the pull of the take-up screws is in line with the center of the shaft, thus avoiding any binding or cramping of the boxes.

Prices upon application.

Extra Heavy Belt Tightener

Made in Either Vertical or Horizontal Style

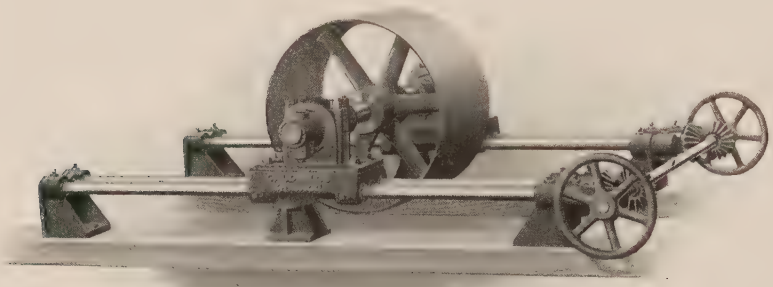


Fig. 45528. (*Combler*)

The type of belt tightener shown here is intended for use with large belts and for heavy service. The bearings can be furnished either ring-oiling or wick-oiling.

By means of supporting castings which are placed about midway of the travel of the bearings, springing or vibration of the rods is prevented.

We give prices below based on various lengths of adjustment, but the length of adjustment can be changed to suit.

Price for belt tightener with other than standard adjustment on application.

The price list below covers either ring-oiling or wick-oiling bearings and vertical or horizontal belt tightener, as desired.

Price List, Subject to Discount

No.	CODE WORD	Width of Belt, Inches	Size of Pulley, Inches	LENGTH OF ADJUSTMENT				
				48 Inches (Laxaturi)	60 Inches (Laxemur)	72 Inches (Laxicoste)	84 Inches (Laxidao)	96 Inches (Leavening)
0	Leasow	24	30 x 26	$ 310.00	$ 320.00	$ 330.00	$ 340.00	$ 350.00
1	Leastways	30	36 x 32	380.00	390.00	400.00	410.00	420.00
2	Leastwise	36	42 x 38	605.00	620.00	635.00	650.00	665.00
3	Leaveless	42	48 x 44	820.00	840.00	860.00	880.00	900.00
4	Leaveneth	48	48 x 50	1220.00	1250.00	1280.00	1310.00	1340.00

Heavy Single Pipe Style Belt Tighteners

Made in Both Horizontal and Vertical Styles

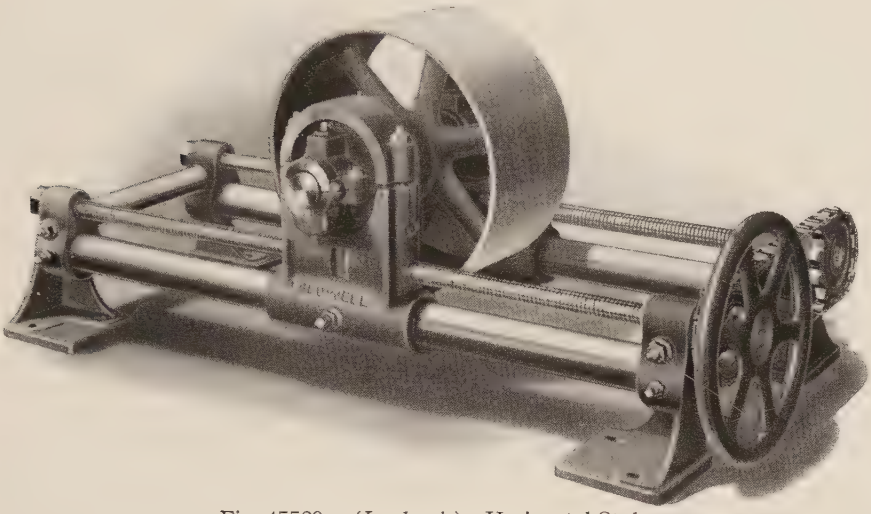


Fig. 45529. (*Lardaccio*) Horizontal Style

This type of belt tightener is suitable for medium service. It is made only with collar-oiling bearings. The dimensions of the pulleys can be varied if necessary from the standard sizes given below. The prices cover tighteners with standard adjustment as given in the dimension list, pages 628 and 629.

Prices for tighteners with other than standard adjustment quoted on application.

Horizontal Style Pipe Belt Tighteners (See page 628)

Price List, Subject to Discount

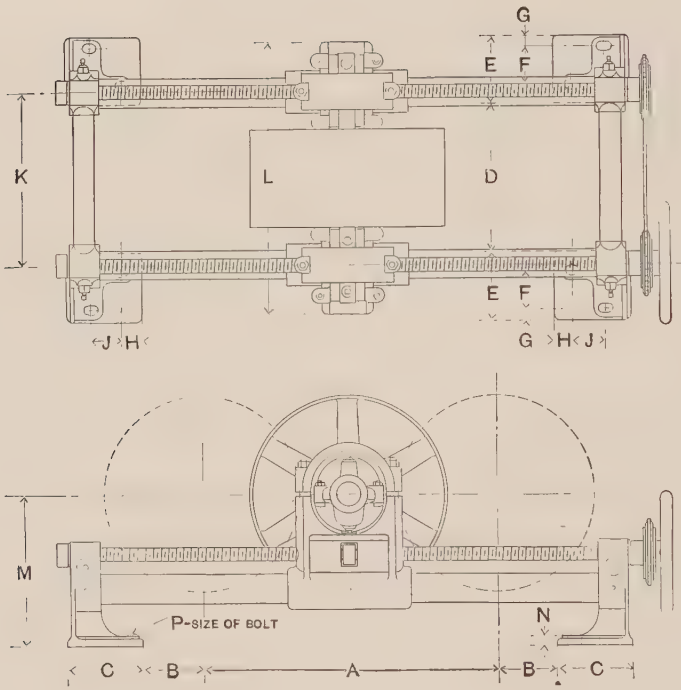
No.	Size of Pulley, Inches	CODE WORD	Price
1	16 x 8	Laufbrett	$ 90.00
2	20 x 12	Lauferzug	130.00
3	24 x 16	Lauffeuer	190.00
4	30 x 20	Laufgelder	300.00
5	36 x 26	Laufgraben	400.00

Vertical Single Pipe Belt Tighteners (See page 629)

Price List, Subject to Discount

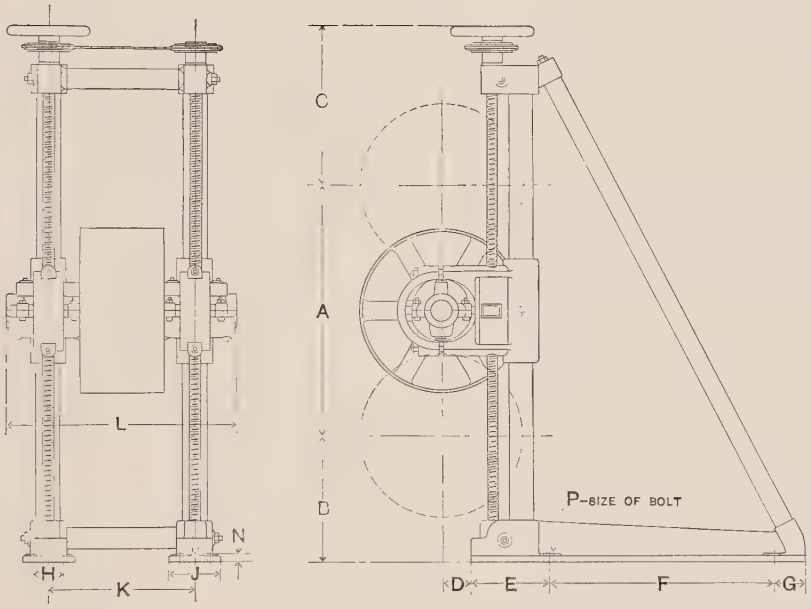
No.	Size of Pulley, Inches	CODE WORD	Price
6	16 x 8	Laufhuhn	$120.00
7	20 x 12	Laufhund	160.00
8	24 x 16	Laufhunden	230.00
9	30 x 20	Laufjagd	330.00
10	36 x 26	Laufjagden	440.00

Dimensions of Horizontal Single Pipe Belt Tighteners



No. of Tightener	Max. Size of Pulley, Inches	Diam. of Shaft, Inches	Travel A Inches	DIMENSIONS, INCHES												
				B	C	D	E	F	G	H	J	K	L	M	N	P
1	16 x 8	$1\frac{15}{16}$	24	$4\frac{7}{8}$	$6\frac{1}{8}$	12	$5\frac{1}{2}$	$3\frac{1}{8}$	$\frac{7}{8}$	$1\frac{1}{2}$	$2\frac{5}{8}$	14	22	$12\frac{1}{4}$	$\frac{3}{4}$	$\frac{5}{8}$
2	20 x 12	$2\frac{3}{16}$	30	5	8	$16\frac{1}{2}$	7	$4\frac{3}{8}$	$1\frac{1}{4}$	$1\frac{1}{2}$	4	19	29	$15\frac{1}{4}$	$\frac{7}{8}$	$\frac{3}{4}$
3	24 x 16	$2\frac{7}{16}$	36	$7\frac{1}{8}$	$8\frac{1}{2}$	21	$7\frac{1}{2}$	$4\frac{5}{8}$	1	$1\frac{3}{8}$	$4\frac{1}{2}$	24	34	$17\frac{1}{4}$	$\frac{7}{8}$	$\frac{3}{4}$
4	30 x 20	$2\frac{15}{16}$	36	$9\frac{1}{2}$	$9\frac{1}{2}$	27	9	$5\frac{1}{2}$	$1\frac{1}{2}$	$1\frac{1}{2}$	5	30	42	22	1	$\frac{7}{8}$
5	36 x 26	$3\frac{7}{16}$	36	$11\frac{1}{2}$	$9\frac{1}{2}$	34	9	$5\frac{1}{2}$	$1\frac{1}{2}$	$1\frac{1}{2}$	5	37	51	22	1	$\frac{7}{8}$

Dimensions of Vertical Single Pipe Belt Tighteners



No. of Tightener	Max. Size of Pulley, Inches	Diam. of Shaft, Inches	Travel A Ins.	DIMENSIONS, INCHES											
				B	C	D	E	F	G	H	J	K	L	N	P
6	16 x 8	$1\frac{15}{16}$	24	12	$15\frac{1}{4}$	$2\frac{5}{8}$	$7\frac{1}{2}$	21	$4\frac{1}{2}$	3	5	14	22	$\frac{7}{8}$	$\frac{5}{8}$
7	20 x 12	$2\frac{3}{16}$	30	$14\frac{1}{2}$	19	3	$8\frac{3}{8}$	$27\frac{1}{2}$	$5\frac{1}{8}$	4	6	19	29	1	$\frac{3}{4}$
8	24 x 16	$2\frac{7}{16}$	36	$16\frac{1}{2}$	22	3	$8\frac{3}{8}$	$36\frac{1}{2}$	$5\frac{1}{8}$	$4\frac{1}{2}$	7	24	34	$1\frac{1}{8}$	$\frac{7}{8}$
9	30 x 20	$2\frac{15}{16}$	36	21	25	4	$8\frac{3}{4}$	$39\frac{3}{4}$	$5\frac{1}{2}$	5	$7\frac{1}{2}$	30	42	$1\frac{1}{4}$	1
10	36 x 26	$3\frac{7}{16}$	36	24	27	5	$9\frac{3}{4}$	$41\frac{1}{4}$	6	$5\frac{1}{2}$	8	37	51	$1\frac{1}{4}$	1

Plain Mule Pulley Stand

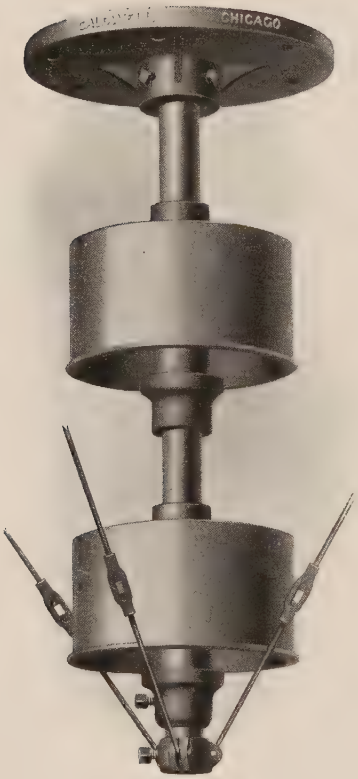


Fig. 45530. (*Calambour*)

This mule pulley stand can be used where it is not necessary to place the pulleys at an angle; for example, where the driving and driven pulleys are on the same level and are of the same diameter. In other cases an adjustable stand will be required.

We furnish with each of these a shaft, two pulleys, two special sleeves or collars with cups for retaining oil, two set collars, one flange plate for fastening to ceiling and guy rods with turn buckles for fastening to lower end of shaft.

Price List, Subject to Discount

No	Width of Belt, Inches	Size of Pulleys, Inches	Length of Shaft, Feet	Length of Guy Rods, Feet	Price	CODE WORD
2	2	10 x 3	4	5½	$ 52.00	Leavenous
3	3	10 x 4	4	5½	57.00	Lebadeam
4	4	12 x 5	4	5½	68.00	Lebaniego
5	5	12 x 6	5	7	72.00	Lebban
6	6	12 x 7	5	7	83.00	Lebbeus
7	7	16 x 8	5	7	92.00	Lebigger
8	8	24 x 10	6	8½	110.00	Lebbigheid
10	10	24 x 12	6	8½	130.00	Lebbrolina
12	12	30 x 14	6	8½	160.00	Lebbroso

Adjustable Mule Pulley Stand

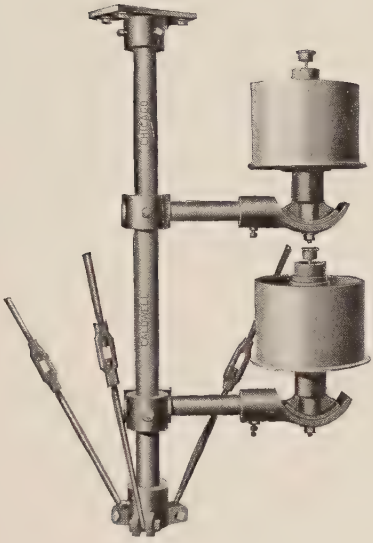


Fig. 45531. (*Cajolery*)

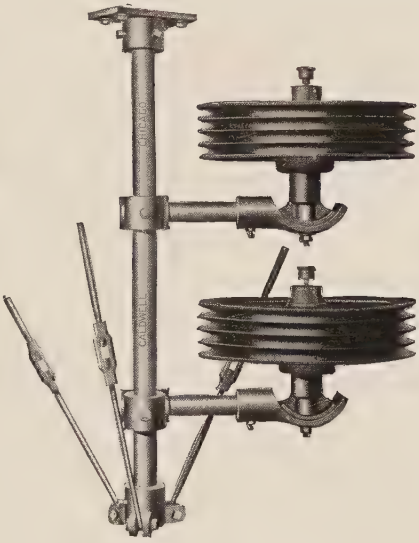


Fig. 45532. (*Cabrait*)

The mule pulley stand shown above is arranged so that pulleys and sheaves can be adjusted in any direction to any angle.

The price list below applies only to mule stands with pulleys.

Prices of mule stands with sheaves on application.

Price List, Subject to Discount

No.	Width of Belt, Inches	Size of Pulley, Inches	Length of Shaft, Feet	Length of Guy Rods, Feet	Price	CODE WORD
2	2	10 x 3	4	5½	$119.00	Lebeche
3	3	10 x 4	4	5½	123.00	Lebedum
4	4	12 x 5	4	5½	128.00	Lebehoch
5	5	12 x 6	5	7	138.00	Lebemann
6	6	12 x 7	5	7	148.00	Lebemannes
7	7	16 x 8	5	7	162.00	Lebemensch
8	8	24 x 10	6	8½	190.00	Lebendig
10	10	24 x 12	6	8½	250.00	Lebendiger
12	12	30 x 14	6	8½	330.00	Lebesader

Caldwell Bearings

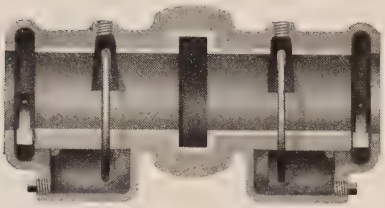


Fig. 45533. Ring-Oiling Bearing.

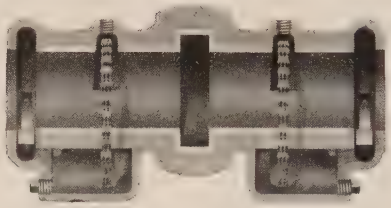


Fig. 45534. Chain-Oiling Bearing.

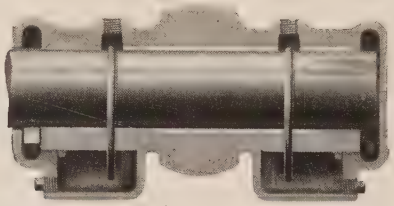


Fig. 45535. Closed End Bearing, Ring-Oiling.

We have a very complete line of bearings, both as to construction and type of oiling device. Our bearings are all babbitted with a high grade of babbitt metal, bored to size after being babbitted, and both ends are faced. The following styles of oiling devices can be furnished:

Plain Oiling. Pillow Blocks and Post Boxes are made with plain bearings, which can be used either with oil or grease. All plain bearings have oil holes tapped for grease cups, but grease cups are not included in the price of the bearing, but are furnished at extra charge when required.

Wick Oiling. Wick oiling bearings can be furnished with pillow blocks, post boxes and hangers and drop hangers. The wick presses against the shaft and extends into the oil reservoir. This type of bearing is particularly suitable for slow and medium speeds.

Ring Oiling. This type of bearing is very satisfactory for medium and high speed work. The oil reservoirs are large and the rings supply an excess of oil. Wipers are provided at the end of the bearings to prevent the oil being carried along the shaft.

Chain Oiling. Chain oiling bearings can only be furnished in our Special Heavy Pattern.

Collar Oiling. Our line of Collar Oiling bearings is complete. The collar furnishes an abundance of oil. Only a few revolutions of the shaft are necessary to supply oil to all parts of the bearing.

Grease Pocket Bearings. This type of bearing is principally used in cement plants and other places where there is a large amount of grit and dirt. The hard grease used rests on the shaft itself, and furnishes very satisfactory lubrication.

Collar Oiling Bearings

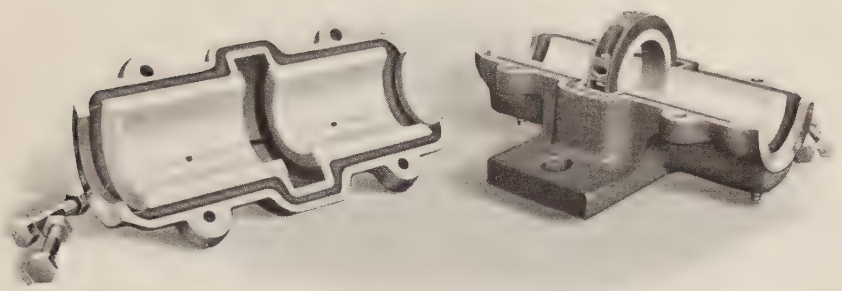


Fig. 45536. (*Lotofago*)

The construction of our Collar Oiling Bearings is shown in the cut above. The collars are clamped to the shaft, and are split and easily removable. Any excess oil is caught in the oil channel between the cap and base of the bearing and cannot leak out of the joint. A wiper is provided to remove the oil from the collar.

Dust-Proof Bearings

Fig. 45537. (*Angitudo*)

Bearings for use in cement plants, and other places where there is a great deal of dust and grit, are often equipped with felt washers held in place by retaining plates screwed to the end of the bearings, as shown above.

We can furnish these dust-proof devices with any of our pillow blocks, post hangers or drop hangers.

Solid Journal or Post Bearing

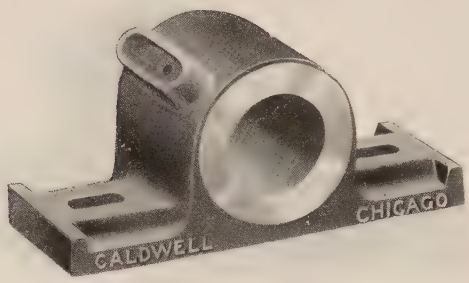
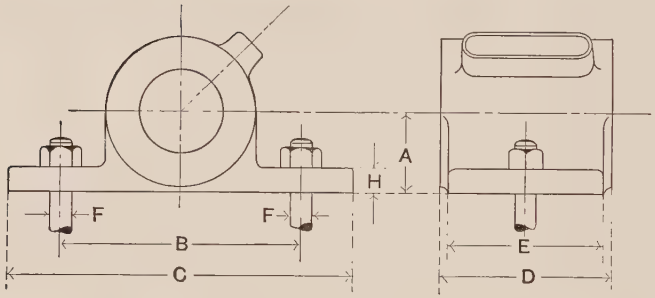


Fig. 45538. (*Abmolior*)



The above bearing differs from the regular pillow block in not having a split cap. The position of the oil reservoir permits of these bearings being used as pillow blocks or post bearings, as desired.

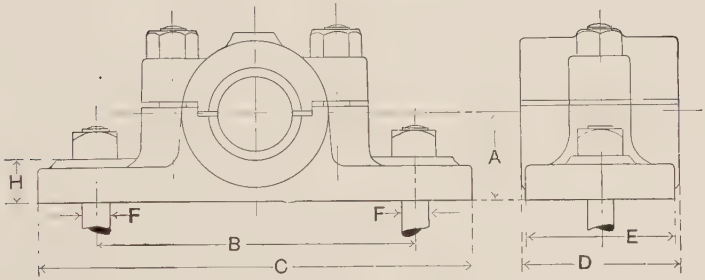
This bearing is regularly furnished babbitted. Prices for plain bored bearings, not babbitted, upon application.

Price List, Subject to Discount

Diameter of Shaft, Inches	Price Babbitted	CODE WORD	DIMENSIONS, INCHES						
			A	B	C	D	E	F	H
11/16	$0.90	Larentia	3/4	2 5/8	4	1 3/4	1 1/2	5/16	3/8
13/16	.95	Largabamos	1	3 1/8	4 1/2	2	1 3/4	5/16	7/16
13/16	.95	Anabios	1	3 1/8	4 1/2	2	1 3/4	5/16	7/16
1 3/16	1.20	Anablepo	1 1/2	4 1/4	6	2 3/4	2 1/4	3/8	5/8
1 7/16	1.50	Anabola	1 5/8	4 1/2	6 3/4	3	2 1/2	1/2	3/4
1 11/16	1.80	Berrya	1 3/4	5 7/8	7 3/4	3 1/2	3	1/2	5/8
1 15/16	2.10	Anabura	2	6 3/8	9	3 7/8	3 3/8	5/8	3/4
2 3/16	2.70	Anacaea	2 1/4	6 3/4	9 1/2	4 1/2	4	5/8	7/8
2 7/16	3.20	Analaco	2 1/2	7	10	4 7/8	4 1/4	3/4	7/8
2 11/16	3.60	Anacaona	3	8 5/8	12 1/4	6	5 1/2	3/4	7/8
2 15/16	4.80	Beere	3	8 5/8	12 1/4	6	5 1/2	3/4	7/8
3 3/16	5.90	Anaceses	3 1/4	9	13	6 1/2	6	3/4	7/8
3 7/16	7.30	Anachite	3 1/2	11	15	8	7 1/2	7/8	1 1/4
3 11/16	9.00	Anacibus	4	11 3/4	16	8	7 1/2	7/8	1 1/4
3 15/16	11.00	Anaciclo	4	11 3/4	16	8	7 1/2	7/8	1 1/4

Short Heavy Pattern Rigid Plain Pillow Blocks

Fig. 45539. (*Cambusier*)



These bearings are heavy and substantial and suitable for extra heavy service. The bearings are babbitted and bored, and the ends of the boxes and the bases are faced.

Price List, Subject to Discount

Diameter of Shaft, Inches	Price	CODE WORD	DIMENSIONS, INCHES							No. of Cap Bolts
			A	B	C	D	E	F	H	
$1\frac{3}{16}$	$3.50	Camellia	$1\frac{3}{8}$	$6\frac{3}{4}$	$8\frac{3}{4}$	$2\frac{1}{2}$	$2\frac{1}{2}$	$\frac{1}{2}$	$\frac{5}{8}$	2
$1\frac{7}{16}$	4.00	Camelot	$1\frac{5}{8}$	$7\frac{1}{4}$	10	3	$2\frac{7}{8}$	$\frac{1}{2}$	$\frac{13}{16}$	2
$1\frac{11}{16}$	5.00	Camera	2	$7\frac{3}{4}$	$10\frac{1}{2}$	$3\frac{1}{2}$	$3\frac{1}{4}$	$\frac{5}{8}$	$\frac{15}{16}$	2
$1\frac{15}{16}$	5.50	Cameration	$2\frac{1}{4}$	$8\frac{1}{4}$	11	4	$3\frac{3}{4}$	$\frac{5}{8}$	$1\frac{1}{8}$	2
$2\frac{3}{16}$	6.25	Camisado	$2\frac{1}{2}$	9	$12\frac{1}{4}$	$4\frac{1}{2}$	$4\frac{1}{4}$	$\frac{3}{4}$	$1\frac{1}{4}$	2
$2\frac{7}{16}$	7.00	Camouflet	$2\frac{3}{4}$	$9\frac{3}{4}$	13	5	$4\frac{1}{2}$	$\frac{3}{4}$	$1\frac{1}{4}$	2
$2\frac{11}{16}$	8.50	Camously	3	$10\frac{1}{4}$	$13\frac{1}{2}$	$5\frac{1}{2}$	$4\frac{3}{4}$	$\frac{3}{4}$	$1\frac{3}{8}$	2
$2\frac{15}{16}$	10.00	Campagnard	$3\frac{1}{4}$	$10\frac{7}{8}$	15	6	5	$\frac{7}{8}$	$1\frac{1}{2}$	2
$3\frac{3}{16}$	12.00	Larciorum	$3\frac{1}{2}$	$12\frac{1}{2}$	$16\frac{1}{2}$	7	$5\frac{1}{2}$	$\frac{7}{8}$	$1\frac{11}{16}$	2
$3\frac{7}{16}$	13.50	Campaign	$3\frac{1}{2}$	$12\frac{1}{2}$	$16\frac{1}{2}$	7	$5\frac{1}{2}$	$\frac{7}{8}$	$1\frac{11}{16}$	2
$3\frac{11}{16}$	15.00	Campaigner	$3\frac{3}{4}$	$12\frac{7}{8}$	$17\frac{1}{2}$	$7\frac{1}{2}$	$5\frac{3}{4}$	1	$1\frac{11}{16}$	2
$3\frac{15}{16}$	17.50	Campanula	4	$13\frac{1}{2}$	18	8	6	1	$1\frac{13}{16}$	2

Rigid Plain Pillow Blocks

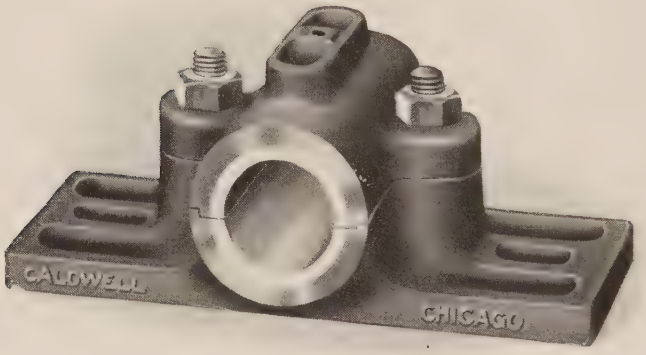


Fig. 45540. (*Calvinism*)

Our rigid plain pillow blocks are made with two cap bolts and two bolt holes in base, in sizes up to and including $2\frac{11}{16}''$.

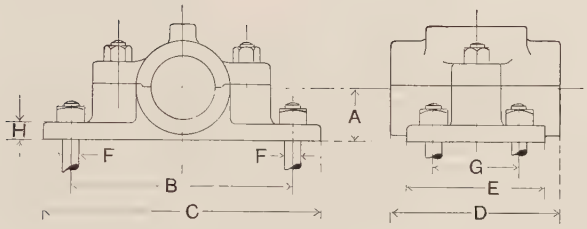
The $2\frac{15}{16}''$ and $3''$ sizes are made with two cap bolts and four bolt holes in base.

Fig. 45541. (*Landpflege*)

Our rigid plain pillow blocks are made with four cap bolts and four bolt holes in base, in sizes from $3\frac{3}{16}''$ to $3\frac{15}{16}''$ inclusive.

For dimensions and price list see opposite page.

Rigid Plain Pillow Blocks—Continued



Our Rigid Plain Pillow Blocks are babbitted and bored, and both ends of the bearings are faced. The bases of the pillow blocks are ground smooth. The bearings are amply heavy for any ordinary service and will be found much heavier than the average plain bearing.

For unusually heavy work the Short Heavy Pattern Bearings as shown on page 635, or the Heavy Pedestal Pattern Bearing, as shown on page 638, will be found somewhat more suitable.

Dimensions and Price List, Subject to Discount

Diam. of Shaft Inches	Price	CODE WORD	DIMENSIONS, INCHES								No of Cap Bolts
			A	B	C	D	E	F	G	H	
15/16	$2.00	Calvinize	1	4 3/4	6 1/2	3 1/2	2 1/2	1/2	. . .	3/8	2
1	2.00	Calvario	1	4 3/4	6 1/2	3 1/2	2 1/2	1/2	. . .	3/8	2
1 3/16	2.50	Calvary	1 1/2	5 3/4	7 1/2	4	2 3/4	1/2	. . .	1/2	2
1 7/16	3.00	Calvert	1 1/2	6	8	4 1/2	3	1/2	. . .	1/2	2
1 1/2	3.00	Calvish	1 1/2	6	8	4 1/2	3	1/2	. . .	1/2	2
1 11/16	3.50	Calvitie	1 1/2	6 5/8	8 5/8	5 1/4	4 1/8	5/8	. . .	1/2	2
1 15/16	4.00	Calyx	1 7/8	7 3/4	10 1/2	6	4 1/2	5/8	. . .	5/8	2
2	4.00	Camarade	1 7/8	7 3/4	10 1/2	6	4 1/2	5/8	. . .	5/8	2
1 15/16	3.50	Calycine	1 3/4	6 5/8	8 1/4	4	3	1/2	. . .	1/2	2
2	3.50	Camandula	1 3/4	6 5/8	8 1/4	4	3	1/2	. . .	1/2	2
2 3/16	4.75	Cambist	2 1/8	8 1/2	11 1/4	6 5/8	5	5/8	. . .	11/16	2
2 7/16	6.00	Cambrel	2 1/4	8 1/2	11 1/2	7	5 1/4	5/8	. . .	11/16	2
2 11/16	7.00	Cambrian	2 3/8	9 1/2	11 3/4	7 1/4	5 5/8	5/8	. . .	3/4	2
2 15/16	8.50	Cambric	2 5/8	9 1/2	12 3/8	8	6	3/4	3	3/4	2
3	8.50	Cambrillon	2 5/8	9 1/2	12 3/8	8	6	3/4	3	3/4	2
3 3/16	10.00	Cambronal	2 3/4	10 5/8	13	10	7	5/8	4 1/4	13/16	4
3 7/16	12.00	Cambrure	2 7/8	11	13 5/8	11	7 3/4	3/4	4 7/8	15/16	4
3 11/16	16.00	Lardare	3 3/4	12 5/8	16 1/2	11	8	3/4	5	1 1/4	4
3 15/16	20.00	Lardaceous	4 1/4	13	16 1/2	12	8	3/4	5	1 1/4	4

Heavy Rigid Pillow Blocks or Pedestals

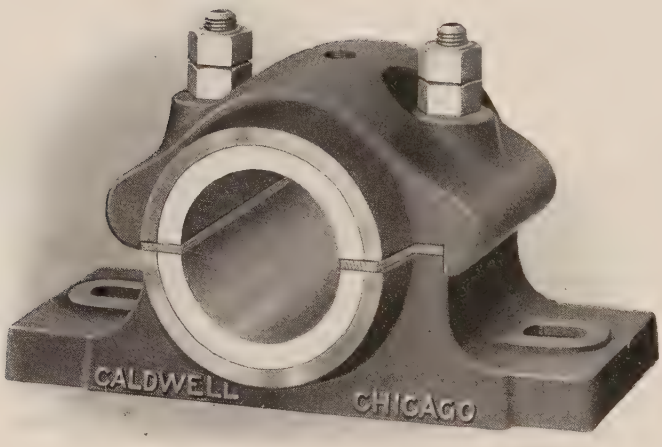


Fig. 45542. (*Laralies*)

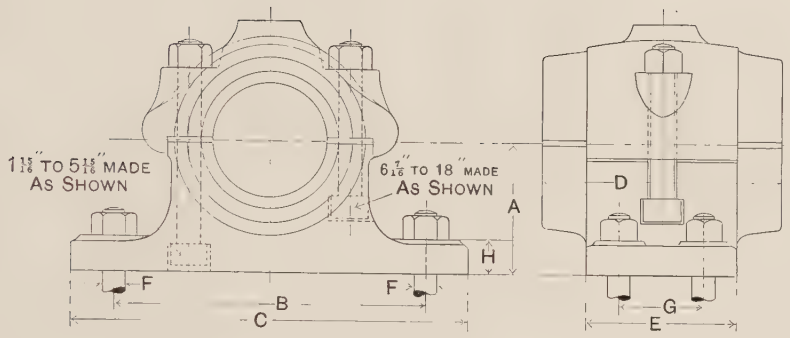
This type of pillow block is extra heavy and designed for use where the ordinary pattern will not be strong enough. The bearings are babbitted and bored and the bases and ends of the boxes are faced.

For sizes of shaft larger than $7\frac{15}{16}$" we furnish loose babbit boxes made so that when the lower box becomes worn the upper box may be substituted.

Price List, Subject to Discount

Diameter of Shaft, Inches	Price	CODE WORD	Diameter of Shaft, Inches	Price	CODE WORD
$1\frac{15}{16}$	$12.00	Laudatoria	9	On Application	Laudatura
$2\frac{15}{16}$	19.00	Campement	10		Laudavel
$3\frac{7}{16}$	22.00	Campesino	11		Laudaveras
$3\frac{15}{16}$	25.00	Campestral	12		Laudavero
$4\frac{3}{16}$	28.00	Laudatrici	13		Laudavit
$4\frac{7}{16}$	32.00	Camphorate	14		Laudemio
$4\frac{15}{16}$	40.00	Camping	15		Laudemus
$5\frac{15}{16}$	60.00	Campstool	16		Laudevole
$6\frac{7}{16}$	75.00	Laudatrix	17		Laudibus
$6\frac{15}{16}$	90.00	Canaille	18		Laudeceni
$7\frac{15}{16}$	125.00	Canakin			

Dimensions of Heavy Rigid Pillow Blocks or Pedestals



Diameter of Shaft, Inches	DIMENSIONS, INCHES								No. of Cap Bolts
	A	B	C	D	E	F	G	H	
1 15/16	2 1/4	7 1/4	9 3/4	5 3/4	3 3/4	5/8	...	7/8	2
2 15/16	3	8 3/4	11 3/4	7 1/2	5	3/4	...	1 5/16	2
3 7/16	3 1/2	9 7/8	13	8	5	3/4	...	1 5/16	2
3 15/16	4	10 3/4	14 3/4	9	5	7/8	...	1 7/16	2
4 3/16	4 1/2	12 1/2	16 3/4	10	6 1/2	7/8	...	1 1/2	2
4 7/16	4 1/2	12 1/2	16 3/4	10	6 1/2	7/8	...	1 1/2	2
4 15/16	5	13 1/2	17 1/2	11	6 3/4	1 1/8	...	1 3/4	2
5 15/16	7	16 1/4	20 1/2	12 1/2	8	1 1/8	4 1/2	2 1/8	2
6 7/16	7	18 1/4	22 1/2	14 1/2	8	1 3/8	4 1/2	2 1/8	2
6 15/16	7	18 1/4	22 1/2	14 1/2	8	1 3/8	4 1/2	2 3/8	2
7 15/16	8	21 3/4	27	16	10	1 3/8	5	2 3/8	2
9	9	25	32	18	11	1 1/2	5	3	2
10	10	29 1/4	36	19 1/2	12	1 5/8	6	3 3/8	2
11	11	31	38 1/2	21 1/2	13	1 3/4	7 1/2	3 15/16	2
12	11	33	41	23	14	2	7 1/2	4	2
13	12	35	43 1/2	25	15	2	7 1/2	4 1/2	2
14	13	37 1/4	46	26 1/2	16	2 1/4	7 1/2	4 1/2	2
15	14	40 1/2	50	28 1/2	17	2 1/4	8 1/2	5	2
16	15	43 1/2	54	30	18	2 1/2	8 1/2	5 1/16	2
17	15 1/2	46	57	31 1/2	19	2 1/2	9 1/2	5 1/2	2
18	16	48 3/4	60	33	20	2 3/4	9 1/2	5 1/2	2

Rigid Wick Oiling Pillow Blocks

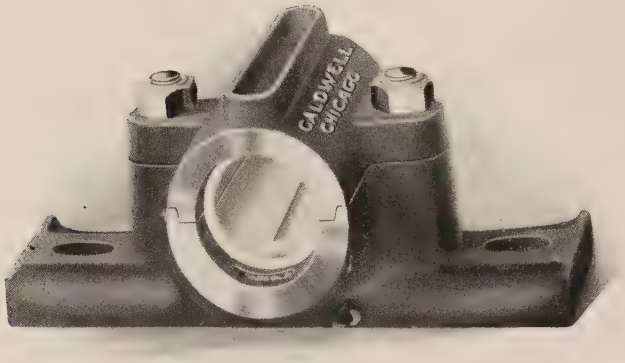


Fig. 45543. (*Laufzaum*)

Our rigid wick-oiling pillow blocks are made with two cap bolts and two bolt holes in base in sizes up to and including $2\frac{7}{16}''$.

Fig. 45544. (*Landpartie*)

Our rigid wick-oiling pillow blocks are made with four cap bolts and two bolt holes in base as shown above, in sizes from $2\frac{11}{16}''$ to $3\frac{11}{16}''$ inclusive.

In sizes larger than $3\frac{11}{16}''$ the pillow blocks will have four cap bolts and four bolt holes in base.

For dimensions see page 642.

Rigid Ring-Oiling Pillow Blocks

Fig. 45545 (*Laufvogel*)

Our rigid ring-oiling pillow blocks are made with two cap bolts and two bolt holes in base in sizes up to and including $2\frac{7}{16}''$.

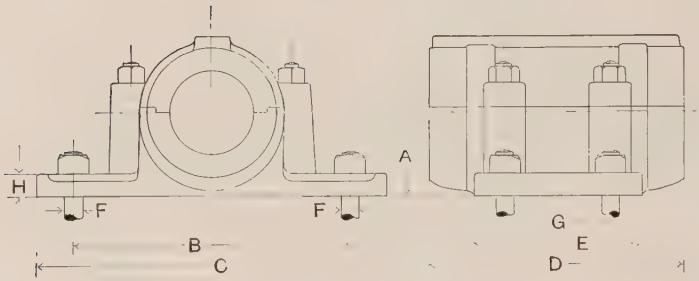
Fig. 45546 (*Laufwagen*)

In sizes from $2\frac{11}{16}''$ to $3\frac{11}{16}''$ inclusive the rigid ring-oiling pillow blocks will have four caps bolts and two bolt holes in base, as shown, and in sizes larger than $3\frac{11}{16}''$ four bolt holes in base.

For dimensions and price list, see page 642.

Rigid Pillow Blocks

Wick-Oiling and Ring-Oiling



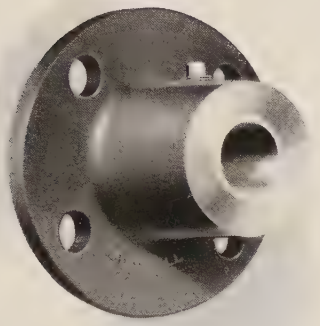
For illustrations and descriptions, see preceding pages.

Price List, Subject to Discount and Dimensions

Diam. of Shaft, Inches	Price	CODE WORD for Shaft Diameter	DIMENSIONS, INCHES								No. of Cap Bolts
			A	B	C	D	E	F	G	H	
1 7/16	$ 5.50	Laufkorbes	2 1/8	6 3/4	9	5	3	1/2	...	3/4	2
1 11/16	6.25	Laufkugel	2 1/8	7 3/4	9 3/4	5 1/2	3 1/2	5/8	...	3/4	2
1 15/16	7.00	Laufklotz	2 3/8	8 3/8	10 3/4	6 1/4	4	5/8	...	1	2
2 3/16	8.00	Laufleiter	2 5/8	9 1/8	11 3/8	7	4 1/2	5/8	...	1	2
2 7/16	9.00	Laufmagd	2 3/4	9 7/8	12	7 3/4	5	3/4	...	1	2
2 11/16	11.00	Laufkorb	3	10 1/8	12 7/8	8 1/4	5 3/4	3/4	...	1	4
2 15/16	13.00	Laufpasses	3 1/4	11	13 3/4	9 1/4	6	7/8	...	1 1/8	4
3 3/16	17.00	Laufmaus	3 5/8	12 1/8	15 3/8	10 3/4	7	1	...	1 1/8	4
3 7/16	20.00	Laufpass	3 5/8	12	15 1/4	10 3/4	7	1	...	1 1/4	4
3 11/16	24.00	Laufplatz	3 3/4	12 5/8	16 1/2	11	7 1/2	1	...	1 1/4	4
3 15/16	27.00	Laufrad	4	13 1/8	16 5/8	12	8	7/8	5	1 1/4	4
4 3/16	32.00	Laufruthe	4 5/8	14 3/4	18 1/8	13	9	7/8	5 1/2	1 3/8	4
4 7/16	35.00	Laufraeder	4 1/2	14 3/4	18 1/4	13	9	7/8	5 1/2	1 1/2	4
4 11/16	40.00	Laufschuss	5	16	19 1/2	14 1/4	10	1	6	1 1/2	4
4 15/16	48.00	Laufseite	5	16	19 3/4	14 1/4	10	1	6	1 1/2	4
5 7/16	65.00	Laufstock	5 1/2	17	21 1/4	16 1/4	11	1	6 1/2	1 1/2	4
5 15/16	75.00	Laufstuhl	5 7/8	17 3/4	22 3/4	17	12	1 1/4	8	1 1/2	4

In telegraphing use code word for size of shaft given in list above and follow by Laufthier in case wick-oiling bearings are required, and by Laufuebung in case ring-oiling bearings are required.

Plate Hub Bearings



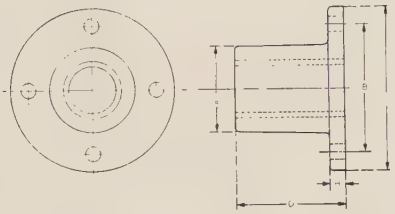


Fig. 45547. (*Lotoide*)

Plate Hub or Flanged Bearings are babbitted and bored to size after being babbitted. The ends of the bearing are finished, and the surface of the flange turned on one side. Oil hole, drilled, and tapped for grease cup, is provided, but grease cups are not included at the prices named.

Price List, Subject to Discount

Diameter of Shaft, Inches	Price Each	CODE WORD	DIMENSIONS, INCHES					No. and Size of Bolts
			A	B	C	D	H	
15/16	$ 4.50	Lucmonem	1 7/8	3	4	2 1/2	7/16	4–3/8
1 3/16	5.00	Lucmonis	2 1/4	3 5/8	4 3/4	2 3/4	1/2	4–1/2
1 7/16	5.50	Lucomedius	2 3/4	4 1/8	5 3/8	3 1/4	1/2	4–1/2
1 11/16	6.25	Luconnois	3 1/4	4 5/8	6	3 3/4	5/8	4–1/2
1 15/16	7.00	Lucore	3 5/8	5 1/4	6 5/8	4 1/2	5/8	4–5/8
2 3/16	8.00	Lucrabimus	4	5 3/4	7 1/4	4 3/4	3/4	4–5/8
2 7/16	9.25	Lucrais	4 1/2	6 1/4	7 7/8	5 1/4	3/4	4–3/4
2 11/16	11.00	Lucrandum	4 7/8	6 7/8	8 1/2	5 1/2	3/4	4–3/4
2 15/16	13.00	Lucrareis	5 3/8	7 3/8	9 1/4	6	7/8	4–3/4
3 3/16	17.00	Lucraremos	5 3/4	7 7/8	9 3/4	6 1/2	1	6–3/4
3 7/16	20.00	Lucrariais	6 1/4	8 3/8	10 1/2	6 3/4	1 1/8	6–3/4
3 11/16	24.00	Lucrassimo	6 5/8	9	11 1/8	7 1/2	1 5/16	6–3/4
3 15/16	27.00	Lucratam	7 1/8	9 1/2	11 3/4	7 3/4	1 3/8	6–3/4

Heavy Pedestals

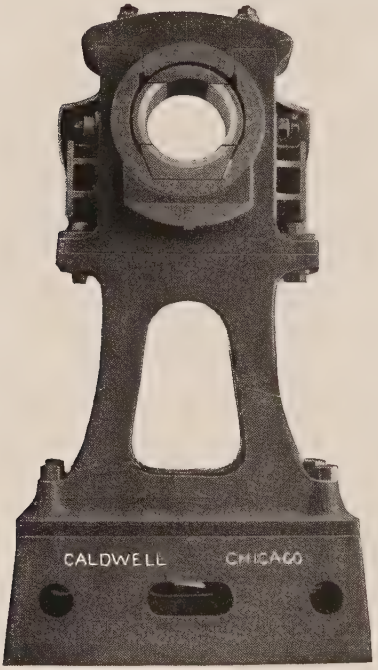


Fig. 45548 (*Laureavano*)

We are prepared to design and build large and heavy pedestal and out-board bearings. The cuts on this page show two styles which we have made.

Prices on these and other styles of bearings furnished upon application.

Fig. 45549 (*Laureating*)

Heavy Gear Drive Bases and Bearings

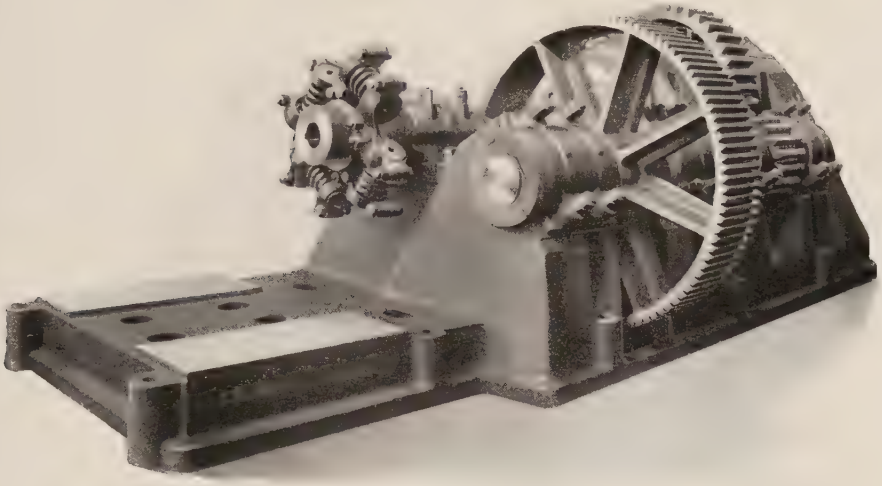


Fig. 45550. (*Lueftchen*)

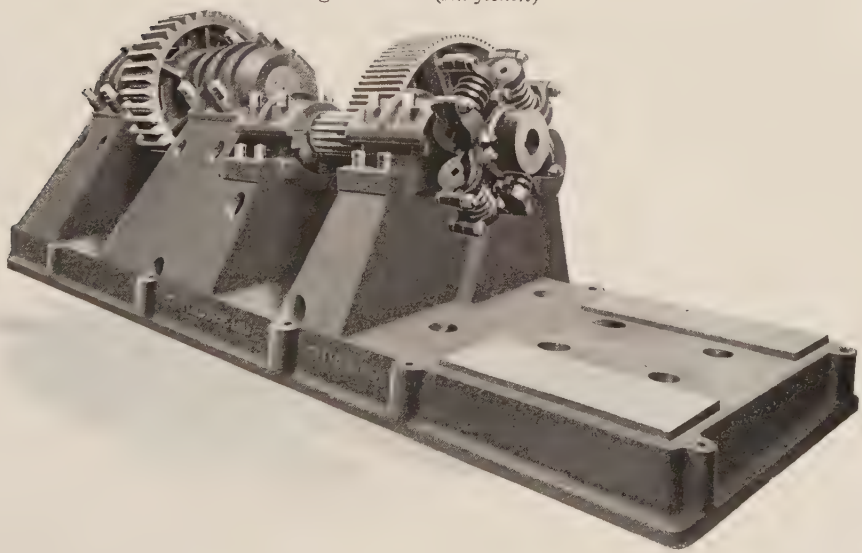


Fig. 45551. (*Lueften*)

Cast Iron Bases of the type shown above are often used with very heavy gear drives, to insure the proper alignment of the shafts and proper center distance for the gears. The drive shown above was arranged with base for bolting the motor in place, and with Flexible Coupling, of the spring type.

We are prepared to design and manufacture drives of this type, including the base, gears, couplings, etc. Prices will be quoted upon receipt of information as to the work to be done.

Rigid Collar Oiling Pillow Blocks

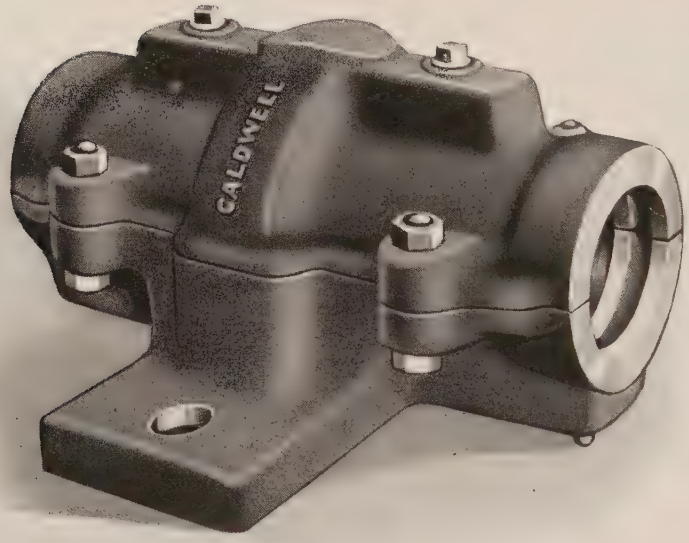


Fig. 45552. (*Landluft*)

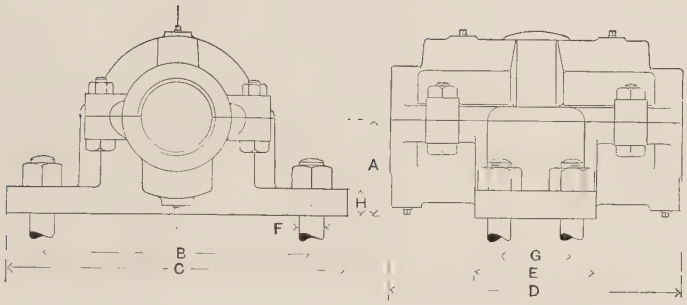
Our rigid collar oiling Pillow blocks are heavy and substantial. The bearings are bored to size and the ends of the bearings faced. In sizes up to and including $4\frac{7}{16}$", these bearings are furnished with two bolt holes in the base. The larger sizes have four bolt holes.

Price List, Subject to Discount

Diameter of Shaft, Inches	Price	CODE WORD	Diameter of Shaft, Inches	Price	CODE WORD
$1\frac{15}{16}$	$11.00	Leberblume	$4\frac{15}{16}$	$66.00	Leberkraut
$2\frac{3}{16}$	12.00	Leberbraun	$5\frac{7}{16}$	80.00	Lebermoose
$2\frac{7}{16}$	14.50	Leberbruch	$5\frac{15}{16}$	90.00	Lebernetz
$2\frac{11}{16}$	18.50	Leberfisch	$6\frac{1}{2}$	Prices	Leberrinne
$2\frac{15}{16}$	22.50	Leberfleck	7	on	Leberspatz
$3\frac{3}{16}$	28.00	Leberfuchs	$7\frac{1}{2}$	Appli-	Leberstein
$3\frac{7}{16}$	33.00	Lebergalle	8	cation	Lebersucht
$3\frac{11}{16}$	38.50	Lebergang	9		Leberthran
$3\frac{15}{16}$	44.00	Leberklee	10		Leberwurm
$4\frac{7}{16}$	53.00	Leberkolik			

For dimensions, see opposite page.

Dimensions of Rigid Collar Oiling Pillow Blocks



Diameter of Shaft, Inches	DIMENSIONS, INCHES							
	A	B	C	D	E	F	G	H
$1\frac{15}{16}$	$3\frac{1}{4}$	9	$11\frac{1}{2}$	$8\frac{1}{2}$	$3\frac{3}{4}$	$\frac{3}{4}$	...	$\frac{7}{8}$
$2\frac{3}{16}$	$3\frac{1}{4}$	9	$11\frac{1}{2}$	$8\frac{1}{2}$	$3\frac{3}{4}$	$\frac{3}{4}$	...	$\frac{7}{8}$
$2\frac{7}{16}$	$3\frac{1}{4}$	9	$11\frac{1}{2}$	10	$3\frac{3}{4}$	$\frac{3}{4}$	...	$\frac{7}{8}$
$2\frac{11}{16}$	$3\frac{1}{4}$	9	$11\frac{1}{2}$	10	$3\frac{3}{4}$	$\frac{3}{4}$	...	$\frac{7}{8}$
$2\frac{15}{16}$	4	11	14	12	5	$\frac{7}{8}$	...	$1\frac{1}{8}$
$3\frac{3}{16}$	4	11	14	12	5	$\frac{7}{8}$	...	$1\frac{1}{8}$
$3\frac{7}{16}$	4	11	14	14	5	$\frac{7}{8}$	...	$1\frac{1}{8}$
$3\frac{11}{16}$	4	11	14	14	5	$\frac{7}{8}$	...	$1\frac{1}{8}$
$3\frac{15}{16}$	$4\frac{3}{4}$	12	$14\frac{1}{2}$	16	$6\frac{1}{2}$	1	...	$1\frac{1}{4}$
$4\frac{7}{16}$	$4\frac{3}{4}$	12	$14\frac{1}{2}$	18	$6\frac{1}{2}$	1	...	$1\frac{1}{4}$
$4\frac{15}{16}$	6	$13\frac{1}{2}$	17	20	$8\frac{1}{2}$	$\frac{7}{8}$	$4\frac{1}{2}$	$1\frac{3}{8}$
$5\frac{7}{16}$	6	$13\frac{1}{2}$	17	21	$8\frac{1}{2}$	$\frac{7}{8}$	$4\frac{1}{2}$	$1\frac{3}{8}$
$5\frac{15}{16}$	$6\frac{3}{4}$	$16\frac{1}{2}$	20	22	$9\frac{3}{4}$	1	5	$1\frac{5}{8}$
$6\frac{1}{2}$	$6\frac{3}{4}$	$16\frac{1}{2}$	20	24	$9\frac{3}{4}$	1	5	$1\frac{5}{8}$
7	8	18	23	26	$11\frac{1}{4}$	$1\frac{1}{8}$	6	$1\frac{7}{8}$
$7\frac{1}{2}$	8	18	23	27	$11\frac{1}{4}$	$1\frac{1}{8}$	6	$1\frac{7}{8}$
8	$8\frac{1}{4}$	20	26	29	$12\frac{3}{4}$	$1\frac{1}{4}$	7	$2\frac{1}{8}$
9	$9\frac{1}{2}$	22	29	32	13	$1\frac{3}{8}$	8	$2\frac{1}{2}$
10	10	24	30	35	$13\frac{1}{2}$	$1\frac{3}{8}$	8	$2\frac{3}{4}$

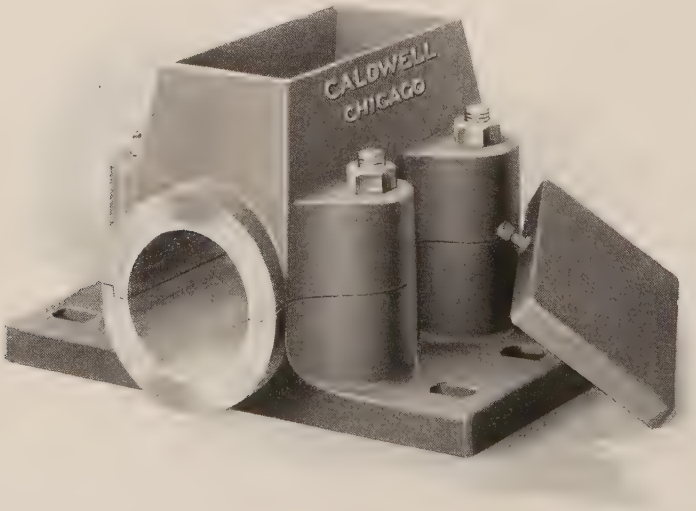
Rigid Pillow Blocks with Grease Pockets

Fig. 45553. (*Landplagen*)

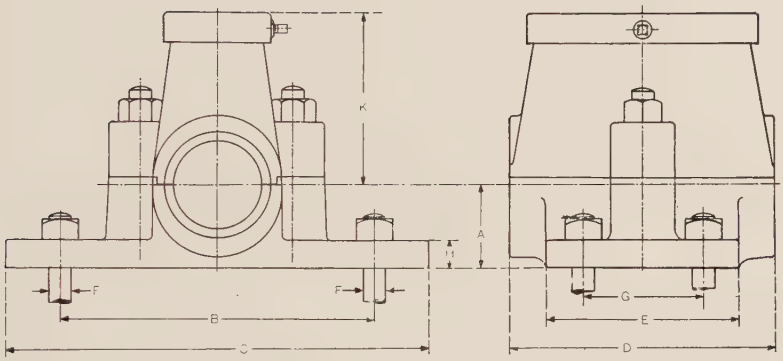
Bearings with Grease Pockets, for use with hard grease, are particularly suitable for cement plants and other places where there is a large amount of dust and grit.

These bearings are babbitted, and bored to size after babbitting. The ends of the bearings are faced, and the base is finished. The cover for the grease pocket is cast iron.

Price list and dimensions on the next page.



Rigid Pillow Blocks with Grease Pockets



Price List, Subject to Discount, and Dimensions

Diameter of Shaft, Inches	Price Each	CODE WORD	DIMENSIONS, INCHES									No. of Cap Bolts
			A	B	C	D	E	F	G	H	K	
1 7/16	$6.00	Lucreremo	1 1/2	6	8	4 1/2	3	1/2	...	1/2	3 1/4	2
1 11/16	6.50	Lucreresti	1 1/2	6 5/8	8 5/8	5 1/4	4 1/8	5/8	...	1/2	3 3/8	2
1 15/16	7.00	Lucretilis	1 7/8	7 3/4	10 1/2	6	4 1/2	5/8	...	5/8	3 3/8	2
2 3/16	8.00	Lucretois	2 1/8	8 1/2	11 1/4	6 5/8	5	5/8	...	11/16	4 1/4	2
2 7/16	9.00	Lucretium	2 1/4	8 1/2	11 1/2	7 1/4	5 1/4	5/8	...	11/16	4 3/4	2
2 11/16	10.00	Lucrific	2 3/8	9 1/4	11 3/4	7 1/4	5 3/4	5/8	...	3/4	5 1/4	2
2 15/16	12.00	Lucrificas	2 5/8	9 1/2	12 3/8	8	6	3/4	3	3/4	5 3/4	4
3 3/16	15.00	Lucrificum	2 3/4	10 5/8	13	10	7	3/4	4 1/4	13/16	5 1/2	4
3 7/16	20.00	Lucrifieri	2 7/8	11	13 3/4	11	7 3/4	3/4	4 7/8	15/16	5 1/2	4
3 11/16	25.00	Lucrifuga	3 3/4	12 5/8	16 1/2	11	8	3/4	5	1 1/4	5 3/4	4
3 15/16	30.00	Lucrifugis	4	13 1/8	16 5/8	12	8	3/4	5	1 1/4	5 3/4	4
4 3/16	35.00	Lucrino	4 5/8	14 3/4	18 1/8	13	9	7/8	5 1/2	1 3/8	6 1/4	4
4 7/16	42.00	Lucrinorum	4 1/2	14 3/4	18 1/4	13	9	7/8	5 1/2	1 1/2	6 1/4	4
4 15/16	50.00	Lucrinus	5	16	19 3/4	14 1/4	10	1	6	1 1/2	7	4

Angle Pillow Blocks

Fig. 45554. (*Lotolente*)

Angle Pillow Blocks will be found useful in many cases where the thrust of the shaft is not in a vertical direction. These pillow blocks may also be used as post boxes. Made with plain cap, tapped for grease cup, as shown in Fig. 45554, or with grease pocket cap, Fig. 45555. The Grease Pocket cap may be reversed when the bearing is used as a post box.

These bearings are babbitted, and bored to size after babbitting. The ends of the bearings are faced and the base finished. The bearings are very heavy, and suitable for severe service.

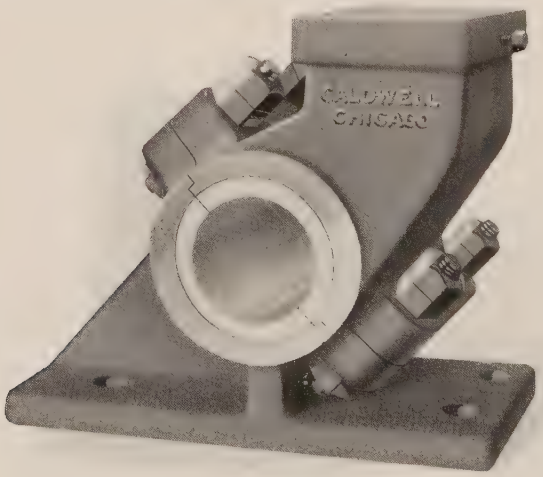
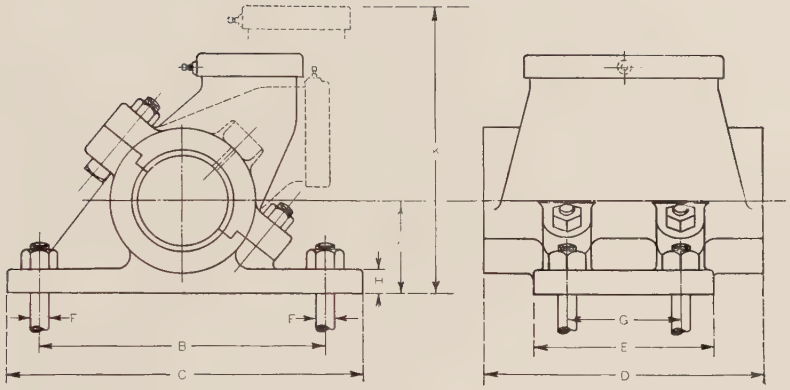


Fig. 45555. (*Lotometra*)

Angle Pillow Blocks



Price List, Subject to Discount, and Dimensions

Diam. of Shaft, Inches	WITH PLAIN CAP		WITH GREASE POCKET CAP		DIMENSIONS, INCHES									No. of Cap Bolts
	Price Each	CODE WORD	Price Each	CODE WORD	A	B	C	D	E	F	G	H	K	
1 7/16	$10.00	Luciliam	$11.00	Lucivago	2 1/8	6 1/4	8 1/2	4 3/4	3 1/2	1/2	2	5/8	3 1/2	2
1 11/16	11.00	Luciline	12.00	Luckiness	2 1/2	7	9 1/2	5 1/8	4	1/2	2 1/4	11/16	3 3/4	2
1 15/16	12.00	Luciliorum	13.00	Lucklessly	2 7/8	8	10 1/2	6	4 1/2	5/8	2 1/2	3/4	4 5/8	2
2 3/16	13.00	Lucillos	14.00	Lucmo	3 1/4	8 1/2	11 1/2	6 1/2	5	5/8	3	7/8	4 7/8	2
2 7/16	14.00	Lucimeter	15.00	Lucrationi	3 3/8	8 1/2	11 1/2	7	5 1/2	5/8	3 1/4	7/8	5 1/4	2
2 11/16	15.00	Lucimiento	16.00	Lucrative	3 1/2	9 1/2	12 1/2	7	6	5/8	3 1/2	15/16	5 1/2	2
2 15/16	17.00	Lucinarum	18.00	Lucrativos	3 3/4	10	13	7 7/8	7	3/4	3 3/4	1	5 7/8	2
3 3/16	20.00	Lucinie	22.00	Lucrativum	4	10 1/2	13 1/2	9 3/4	7 1/4	3/4	4 1/4	1 1/8	6 1/4	4
3 7/16	25.00	Luciparens	27.00	Lucratores	4 1/8	11	14	10 3/4	7 3/4	3/4	4 3/4	1 3/16	6 3/4	4
3 11/16	30.00	Lucipeta	32.00	Lucratorum	4 1/2	11 1/2	14 1/2	11	8	3/4	5	1 1/4	6 3/4	4
3 15/16	35.00	Lucipetis	37.00	Lucratos	4 3/4	12	15	12	8 1/4	3/4	5 1/4	1 5/16	7 3/8	4
4 3/16	42.00	Lucipetum	45.00	Lucraveras	5	13	16 1/2	13	8 1/2	7/8	5 1/2	1 3/8	7 5/8	4
4 7/16	50.00	Lucipor	53.00	Lucraverit	5 1/2	14	17 1/2	13	9	7/8	6	1 1/2	8 1/8	4
4 11/16	60.00	Luciporem	63.00	Lucrecia	5 3/4	14 1/2	18	14 1/4	9 1/2	1	6 1/2	1 5/8	8 1/2	4
4 15/16	70.00	Luciporis	74.00	Lucrent	5 3/4	14 1/2	18	14 1/4	9 1/2	1	6 1/2	1 5/8	8 1/2	4
5 7/16	80.00	Lucisator	85.00	Lucreranno	6 1/4	16	20	16 1/4	10 1/2	1 1/8	7	1 3/4	9	4
5 15/16	90.00	Lucivaghe	95.00	Lucrerebbe	6 3/4	18	22	17 1/8	11 1/2	1 1/4	8	1 7/8	9 3/4	4

Ball and Socket Wick-Oiling Pillow Blocks

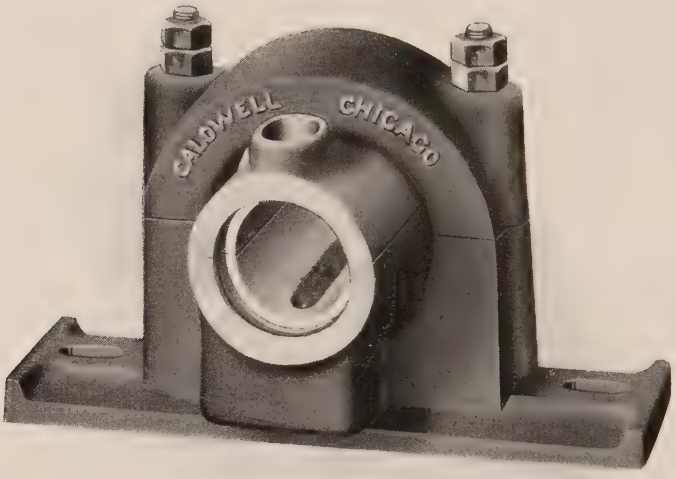


Fig. 45556. (*Caniveau*)

Our ball and socket pillow blocks are made from heavy and substantial patterns. In sizes up to and including $2\frac{15}{16}$" they are made with two cap bolts and two bolt holes in base. The cap bolts have lock nuts as shown. The $3\frac{3}{16}$" and $3\frac{7}{16}$" bearings have four bolt holes in base and two cap bolts.

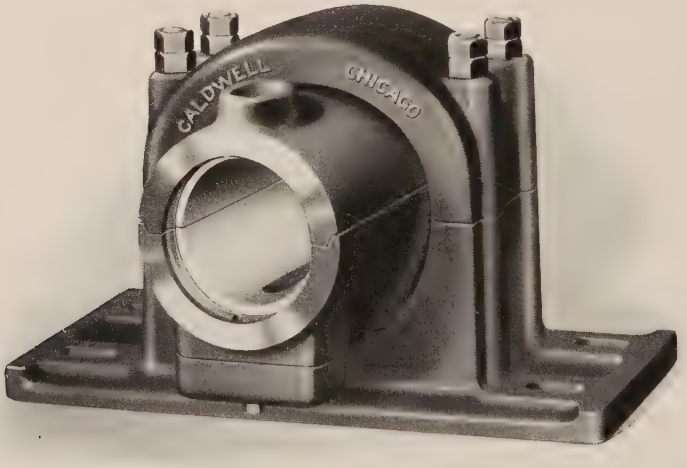


Fig. 45557. (*Landrath*)

In sizes $3\frac{11}{16}$" and larger these bearings are made with four cap bolts and four bolt holes in base.

For dimensions and price list, see page 654.

Ball and Socket Ring-Oiling Pillow Blocks

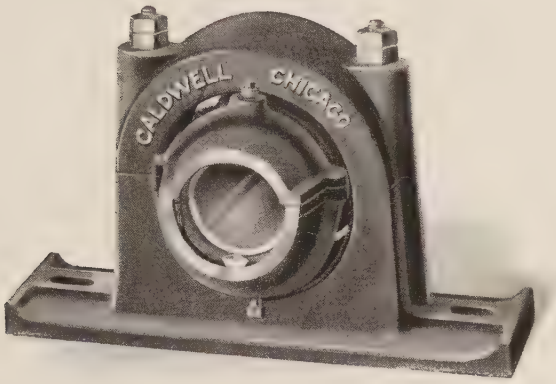


Fig. 45558. (*Cansado*)

In sizes up to and including $2\frac{15}{16}$" these bearings are made with two cap bolts fitted with lock nuts and with two bolt holes in base.

The $3\frac{3}{16}$" and $3\frac{7}{16}$" sizes are made with two cap bolts and four bolt holes in base.

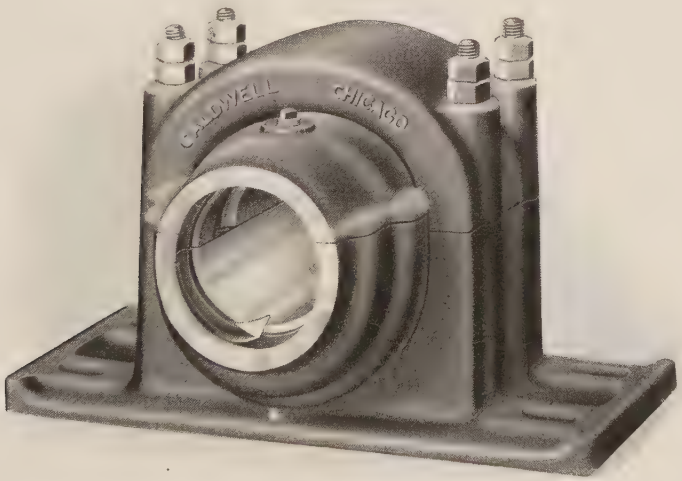


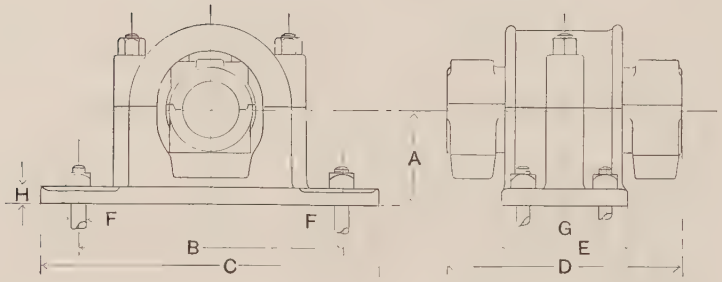
Fig. 45559. (*Landratte*)

In sizes $3\frac{11}{16}$" and larger these bearings are made with four cap bolts fitted with lock nuts, and with four bolt holes in base.

For dimensions and price list, see page 654.

Ball and Socket Pillow Blocks

Wick-Oiling and Ring-Oiling



Rigid Wick-Oiling and Ring-Oiling Pillow Blocks are made with bore babbitted and bored to size. Both ends of the bearings are faced.

Illustrations and description on the preceding pages.

Price List, Subject to Discount and Dimensions

Diam. of Shaft, Inches	Price	CODE WORD for Diameter of Shaft,	DIMENSIONS, INCHES								No. of Cap Bolts
			A	B	C	D	E	F	G	H	
1 3/16	$ 6.00	Launched	2 3/4	7 3/4	9 3/4	4 3/4	2 1/2	1/2	...	1/2	2
1 7/16	7.00	Launching	2 3/4	7 3/4	9 3/4	6	2 3/4	1/2	...	9/16	2
1 11/16	8.00	Laundress	3	7 3/4	10 1/4	7	3 1/2	1/2	...	5/8	2
1 15/16	8.50	Launder	3 1/2	8 5/8	11	8	4	5/8	...	3/4	2
2 3/16	9.50	Laundry	4	9 5/8	12	9	4 1/2	5/8	...	3/4	2
2 7/16	11.00	Launenhaft	4	10 1/2	13	10	5	5/8	...	3/4	2
2 11/16	14.00	Launenvoll	4 1/4	10 3/4	14 1/2	12	5 1/2	5/8	...	3/4	2
2 15/16	16.00	Launiger	4 1/4	10 3/4	14 1/2	12	5 1/2	5/8	...	3/4	2
3 3/16	20.00	Launigsten	4 3/4	11	15	13	6 1/2	5/8	3 1/4	3/4	2
3 7/16	23.00	Launisch	5 1/4	13 1/4	16 1/4	14	7 1/4	5/8	4	7/8	2
3 11/16	27.00	Laurace	5 1/2	14	17 1/2	14	8	5/8	4 1/2	7/8	4
3 15/16	32.00	Launisches	5 1/2	14	17 1/2	14	8	5/8	4 1/2	7/8	4
4 3/16	38.00	Laureabais	7	16 1/2	20	18	9	3/4	4 1/2	1 1/8	4
4 7/16	43.00	Lauraginem	7	16 1/2	20	18	9	3/4	4 1/2	1 1/8	4
4 11/16	50.00	Lauraguais	7	16 1/2	21 3/4	20	10 1/4	3/4	5	1 1/8	4
4 15/16	55.00	Laureados	7	16 1/2	21 3/4	20	10 1/4	3/4	5	1 1/8	4
5 7/16	75.00	Laurago	8	19 1/2	24	22	11 1/2	1	5 3/4	1 1/2	4
5 15/16	95.00	Lauraginis	8 3/4	22	27	24	13	1	6 1/2	1 1/2	4

In telegraphing use code word for diameter of shaft in list above, and follow by code word Laureasse in case wick oiling pillow blocks are required and by code word Laureate in case ring oiling pillow blocks are required.

Friction Transmission Boxes

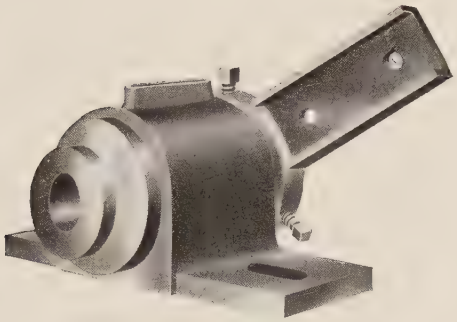


Fig. 45560. (*Central*)
Eccentric Box for engaging spur frictions.

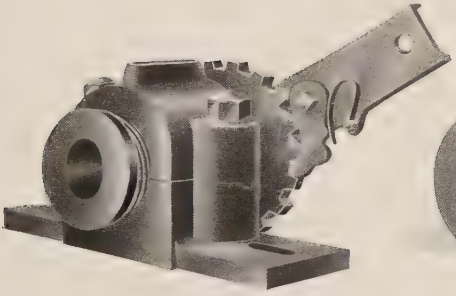


Fig. 45561. (*Centralism*)

Take-Up End Thrust Box. For adjusting the pressure and taking up the wear of bevel and mitre frictions. Used when frictions are not frequently thrown in and out of contact.

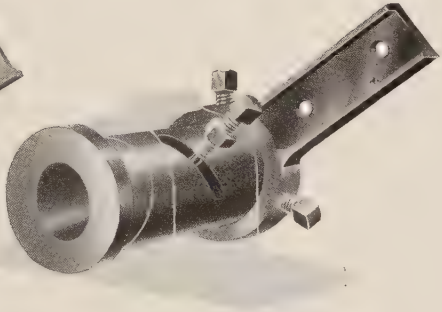


Fig. 45562. (*Centrality*)

Quick Acting End Thrust Box. Used when frictions are frequently engaged and disengaged, also for reverse motions.

Price List, Subject to Discount

Size of Shaft, Inches	CODE WORD for Shaft Size	Quick-Acting End-Thrust Box (Centrality)	Take-Up End-Thrust Box (Centralism)	Eccentric Box (Central)
$1\frac{3}{16}$	Centrical	$29.25	$33.75	$22.50
$1\frac{7}{16}$	Centrifuge	31.80	36.75	24.45
$1\frac{11}{16}$	Centuple	36.45	42.00	28.05
$1\frac{15}{16}$	Centurion	41.55	48.00	31.95
$2\frac{3}{16}$	Cephalic	47.25	54.45	36.30
$2\frac{7}{16}$	Cepillar	53.70	61.80	41.25
$2\frac{11}{16}$	Ceraceous	61.05	70.50	46.95
$2\frac{15}{16}$	Cerafolio	69.60	80.40	53.55
$3\frac{3}{16}$	Ceramique	79.65	91.80	61.20
$3\frac{7}{16}$	Cerasite	91.05	105.00	70.05
$3\frac{11}{16}$	Cerasted	104.40	120.30	80.25
$3\frac{15}{16}$	Ceraunite	119.40	137.70	91.80

Special Heavy Ball and Socket Pillow Blocks

Chain-Oiling or Ring-Oiling

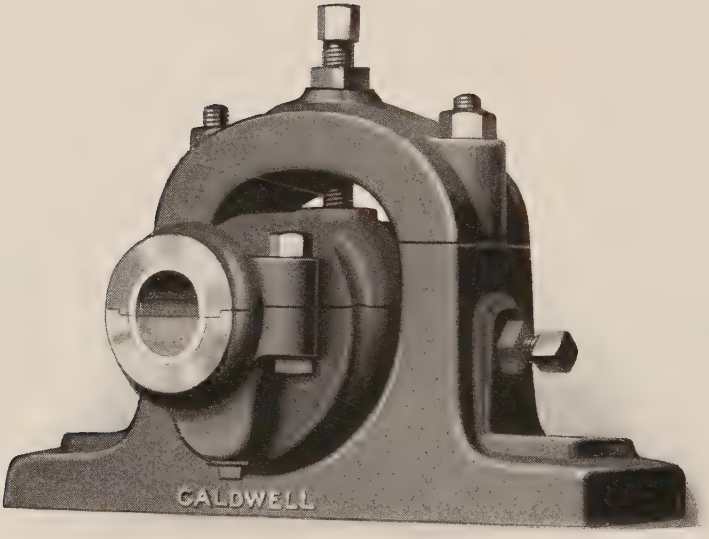


Fig. 45563. (*Canvasser*)

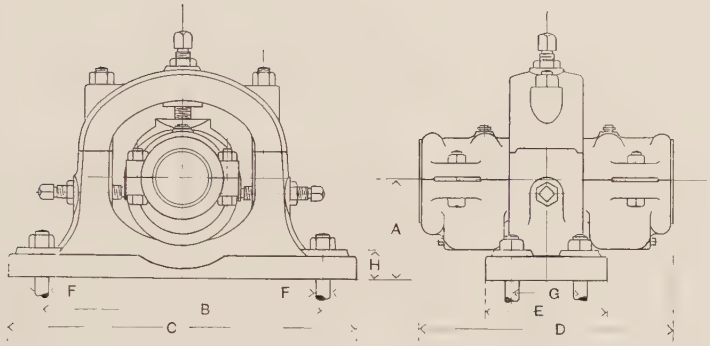
The special heavy pattern ball and socket pillow block shown above is suitable for the heaviest service where the ordinary ball and socket pillow block cannot be used. It is made with either ring-oiling or chain-oiling bearings, and can be furnished with concealed collars if so desired.

The bearings are bored to size after being babbitted, and the ends of the bearings and the bases are faced.

In sizes up to and including $2\frac{15}{16}''$ these bearings are made with two bolt holes in base. The larger bearings have four bolt holes.

For dimensions and price list, see page 657.

Special Heavy Ball and Socket Pillow Blocks—Continued



Price List, Subject to Discount and Dimensions

Diam. of Shaft, Inches	Price	CODE WORD	DIMENSIONS, INCHES								No. of Cap Bolts
			A	B	C	D	E	F	G	H	
15/16	$11.00	Carcavado	2 3/4	8	10	4 3/4	3 1/2	1/2	...	1	2
1 3/16	13.00	Carchesium	2 3/4	8	10	6	3 1/2	1/2	...	1	2
1 7/16	15.00	Carcinodes	3 3/4	10	13 1/2	7 1/4	3 3/4	5/8	...	1 3/8	2
1 11/16	17.00	Carciofano	3 3/4	10	13 1/2	8 1/2	3 3/4	5/8	...	1 3/8	2
1 15/16	19.00	Carcomecia	4 1/4	12 1/4	15 1/2	9 3/4	4 1/4	3/4	...	1 5/8	2
2 3/16	23.00	Cardamindo	4 1/4	12 1/4	15 1/2	11	4 1/4	3/4	...	1 5/8	2
2 7/16	28.00	Cardaturus	5	14	17 1/2	12 1/4	4 7/8	7/8	...	1 3/4	2
2 11/16	32.00	Carderugio	5 3/4	16 1/4	20 1/4	13 1/2	5 1/2	7/8	...	1 7/8	2
2 15/16	36.00	Cardialgia	5 3/4	16 1/4	20 1/4	14 3/4	5 1/2	7/8	...	1 7/8	2
3 3/16	41.00	Cardinatum	6 1/2	18 1/8	22 1/4	16	7 5/8	7/8	4 3/8	2	2
3 7/16	45.00	Carducado	6 1/2	18 1/8	22 1/4	16 1/4	7 5/8	7/8	4 3/8	2	2
3 11/16	52.00	Cargareme	7 1/4	20 3/4	25 3/4	19 3/4	8 5/8	1	4 7/8	2 1/4	2
3 15/16	58.00	Caricarum	7 1/4	20 3/4	25 3/4	19 3/4	8 5/8	1	4 7/8	2 1/4	2
4 3/16	65.00	Caripando	8	22 5/8	27 3/4	22 1/4	9 1/4	1	5 1/4	2 1/2	2
4 7/16	70.00	Caritatero	8	22 5/8	27 3/4	22 1/4	9 1/4	1	5 1/4	2 1/2	2
4 11/16	85.00	Carleabais	8 1/2	24 1/2	29 1/2	24 3/4	9 3/4	1	5 5/8	2 3/4	2
4 15/16	95.00	Carmeamos	8 1/2	24 1/2	29 1/2	24 3/4	9 3/4	1	5 5/8	2 3/4	2
5 7/16	115.00	Carmenaba	9 3/4	27 1/2	33 1/2	26	10 3/4	1 1/8	6 1/4	3 1/8	2
5 15/16	145.00	Carmesiren	9 3/4	27 1/2	33 1/2	27	10 3/4	1 1/8	6 1/4	3 1/8	2
6 1/2	175.00	Carminante	10 7/8	30 1/4	36 1/2	29 1/2	11 1/2	1 1/4	6 3/4	3 1/2	2
7	200.00	Carneruno	10 7/8	30 1/4	36 1/2	32 1/2	11 1/2	1 1/4	6 3/4	3 1/2	2
7 1/2	235.00	Carnosetto	11 7/8	32 3/4	39 1/4	34	12	1 3/8	7	3 3/4	2
8	270.00	Carolaccia	11 7/8	32 3/4	39 1/4	36	12	1 3/8	7	3 3/4	2
9	300.00	Carpebatur	12 3/4	35 1/4	42	40	12 1/2	1 1/2	7 1/4	4	2

Ball and Socket Collar Oiling Pillow Blocks

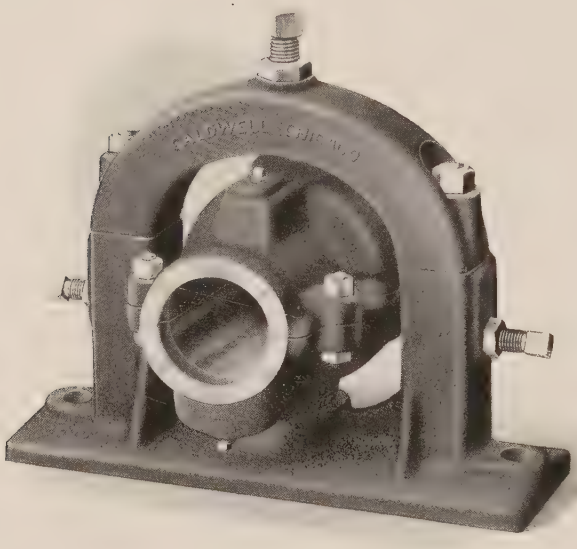


Fig. 45564. (*Laurelia*)

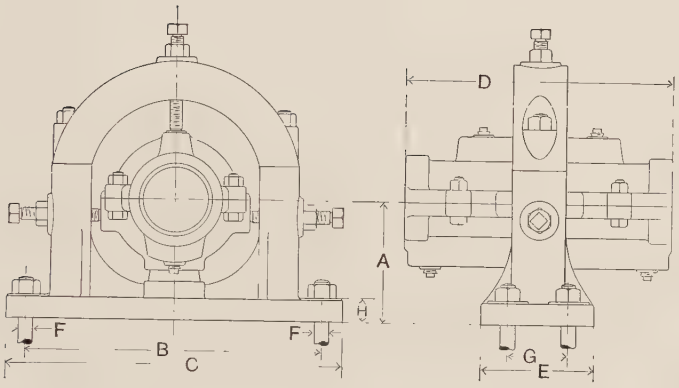
These pillow blocks are strictly ball and socket, being adjustable in all directions. The bearings are babbitted and bored to size and the ends of bearings are faced.

Price List, Subject to Discount

Diameter of Shaft, Inches	Price	CODE WORD	Diameter of Shaft, Inches	Price	CODE WORD
$1\frac{15}{16}$	$17.50	Leccume	$4\frac{7}{16}$	$60.00	Lechies
$2\frac{3}{16}$	20.00	Lechaeon	$4\frac{15}{16}$	80.00	Lechinos
$2\frac{7}{16}$	24.00	Lechaeum	$5\frac{7}{16}$	85.00	Lechona
$2\frac{11}{16}$	28.00	Lechearum	$5\frac{15}{16}$	110.00	Lechonne
$2\frac{15}{16}$	33.00	Lecheguana	$6\frac{1}{2}$	Prices	Lechosos
$3\frac{3}{16}$	36.00	Lecheras	7	on	Lechriops
$3\frac{7}{16}$	40.00	Lecheront	$7\frac{1}{2}$	Appli-	Lechugado
$3\frac{11}{16}$	46.50	Lechette	8	cation	Lechuguero
$3\frac{15}{16}$	53.00	Lechidion			

For dimensions, see opposite page.

Dimensions of Ball and Socket Collar Oiling Pillow Blocks



Diam. of Shaft, Inches	DIMENSIONS, INCHES							
	A	B	C	D	E	F	G	H
1 15/16	5 1/4	13	15	8 1/2	5	3/4	...	1 3/8
2 3/16	5 1/4	13	15	8 1/2	5	3/4	...	1 3/8
2 7/16	5 1/4	13	15	10	5	3/4	...	1 3/8
2 11/16	5 1/4	13	15	10	5	3/4	...	1 3/8
2 15/16	5 7/8	16	18 1/4	12	6	7/8	...	1 1/2
3 3/16	5 7/8	16	18 1/4	12	6	7/8	...	1 1/2
3 7/16	5 7/8	16	18 1/4	14	6	7/8	...	1 1/2
3 11/16	5 7/8	16	18 1/4	14	6	7/8	...	1 1/2
3 15/16	7 1/2	18	20 3/4	16	7	1	...	1 5/8
4 7/16	7 1/2	18	20 3/4	18	7	1	...	1 5/8
4 15/16	9	22	25	20	8 1/2	1 1/8	...	1 3/4
5 7/16	9	22	25	21	8 1/2	1 1/8	...	1 3/4
5 15/16	10	24	27	22	10	1 1/4	...	2 1/2
6 1/2	10	24	27	24	10	1 1/4	...	2 1/2
7	11	26	29 1/2	26	11 1/2	1 1/8	5 1/2	2 1/4
7 1/2	11	26	29 1/2	27	11 1/2	1 1/8	5 1/2	2 1/4
8	12	29	33	29	12 1/2	1 1/4	6	2 1/2
9	13	33	37	32	13 1/2	1 3/8	6 1/2	2 3/4
10	13	36	41	35	14	1 1/2	7	2 3/4

Spherical Pillow Blocks

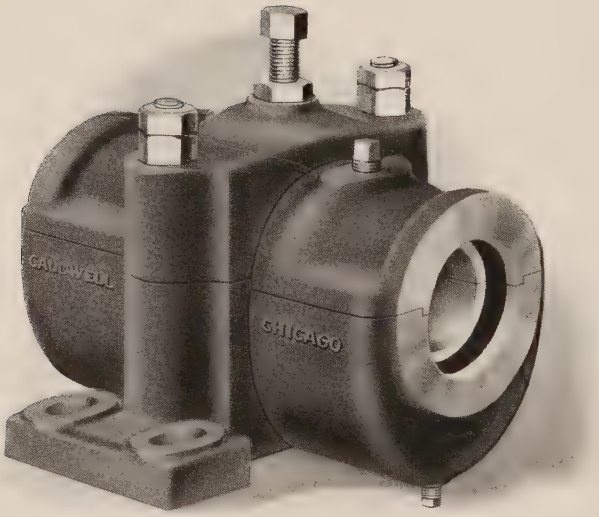


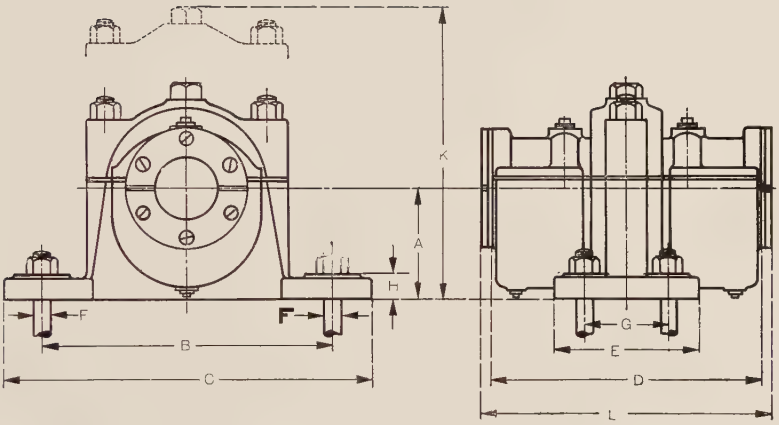
Fig. 45565. (*Lotometris*)

Our Spherical Pillow Blocks are made with a turned ball or sphere, fitted into a babbitted socket. This gives all the advantages of a rigid bearing, and permits of alignment of the shaft.

The bearings are ring oiling, babbitted and bored to size after babbitting. The ends of the bearings are faced and the bases of the frames are finished.

Dimensions and price list on the opposite page.

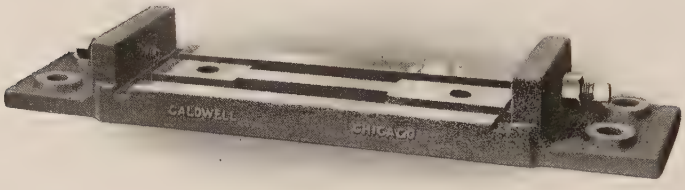
Spherical Pillow Blocks



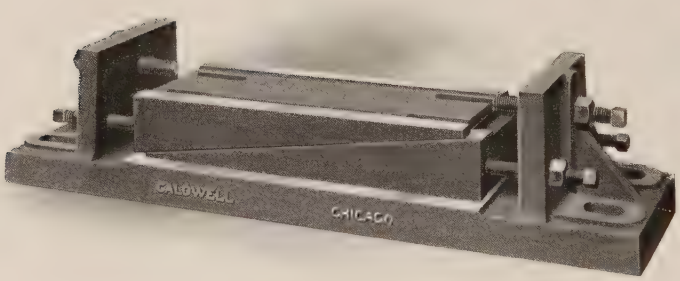
Price List, Subject to Discount

Diameter of Shaft, Inches	Price, Each	CODE WORD	DIMENSIONS, INCHES										No. of Base Bolts
			A	B	C	D	E	F	G	H	K	L	
1 1/16	$38.00	Lucidezza	4	10	12½	9	3	5/8	....	7/8	10	10	2
1 1/16	38.00	Lucidness	4	10	12½	9	3	5/8	....	7/8	10	10	2
2 3/16	48.00	Lucidos	4½	11	14	10¾	4	¾	....	7/8	11¼	11¾	2
2 7/16	48.00	Lucidura	4½	11	14	10¾	4	¾	....	7/8	11¼	11¾	2
2 11/16	62.00	Luciferax	5	13	16½	12	4	¾	....	1	12¾	13	2
2 15/16	62.00	Lucifero	5	13	16½	12	4	¾	....	1	12¾	13	2
3 3/16	87.00	Luciferous	5	13	16½	14¼	6½	¾	3¾	1¼	14¾	15¼	4
3 7/16	87.00	Luciflua	5	13	16½	14¼	6½	¾	3¾	1¼	14¾	15¼	4
3 11/16	115.00	Lucifluis	6	14½	18½	16	7½	7/8	4½	1⅜	18½	17	4
3 15/16	115.00	Lucifluum	6	14½	18½	16	7½	7/8	4½	1⅜	18½	17	4
4 3/16	155.00	Luciform	6½	16½	20½	17½	8	1	5	1½	20¼	19½	4
4 7/16	155.00	Lucifugas	6½	16½	20½	17½	8	1	5	1½	20¼	19½	4
4 11/16	200.00	Lucifugo	7	17	21	18½	8½	1	5¼	1½	19	20½	4
4 15/16	200.00	Lucifnolo	7	17	21	18½	8½	1	5¼	1½	19	20½	4

Base or Sole Plates



Style A.
Fig. 45566. (*Cavalier*)



Style B.
Fig. 45567. (*Combing*)

Plain Sole Plates, Style A, are adjustable laterally only, by the use of set screws.

Adjustable Sole Plates, Style B, are adjustable vertically by the use of the wedges, and are also adjustable laterally.

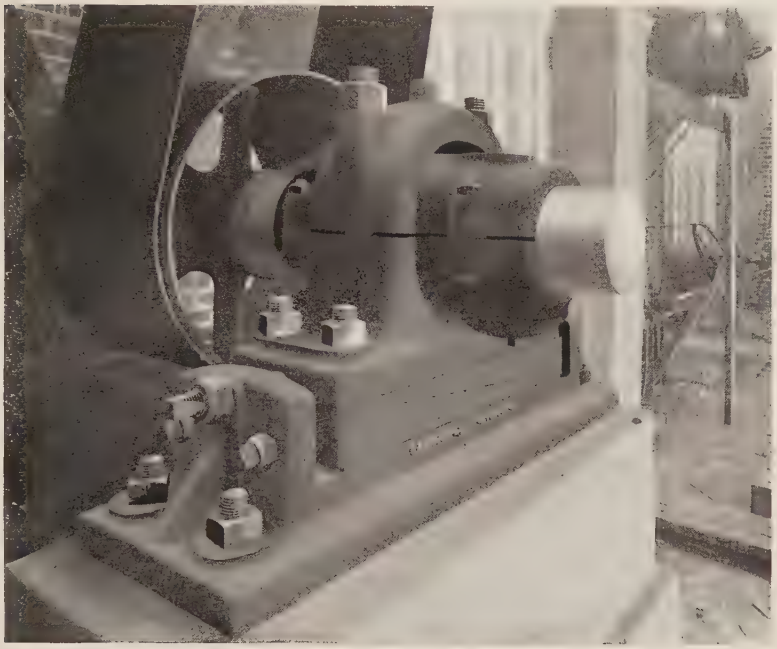
The bottoms of the Sole Plates and the surface on which the bearing rests, also the wedges of the Style B Sole Plate, are finished.

The Sole Plates are made in six sizes. For schedule of number of sole plate to use with different sizes and types of bearings, see page 665.

Price List, Subject to Discount

Number of Sole Plate	PLAIN SOLE PLATES, STYLE A		ADJUSTABLE SOLE PLATES, STYLE B	
	Price Each	CODE WORD	Price Each	CODE WORD
1	$10.00	Lueftest	$25.00	Luegensaat
2	14.00	Lueftung	35.00	Luegenvoll
3	19.00	Luegenbold	45.00	Luegenwahn
4	24.00	Luegengeld	60.00	Luegenwort
5	30.00	Luegenhaft	75.00	Luegner
6	40.00	Luegenmaul	90.00	Luella

Heavy Pillow Block with Adjustable Sole Plate



Rigid Pedestal with Style A Sole Plate

Floor Stands or Pedestals

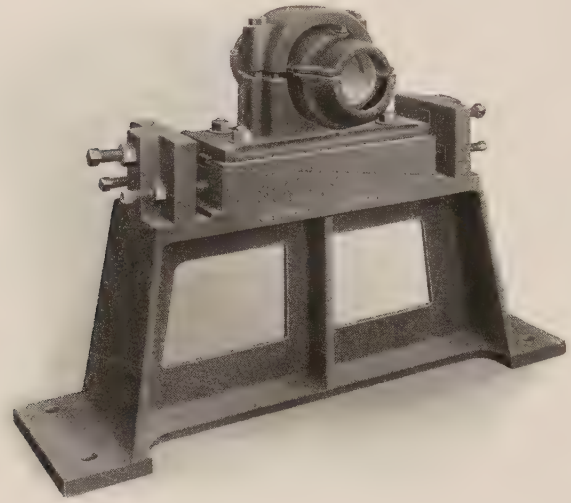


Fig. 45568. (*Cataror*)

Floor Stands are made either without wedges, Style A, or with wedges, Style B. The wedges, bases, and wedge seats are finished.

These Floor Stands are made in six sizes, for various sizes of pillow blocks, and in four heights. For schedule of number of Floor Stand to use with various sizes and styles of bearings, see opposite page.

Price list covers floor stand complete, without pillow blocks.

Price List, Subject to Discount

Style A, Plain Floor Stands, Without Wedges

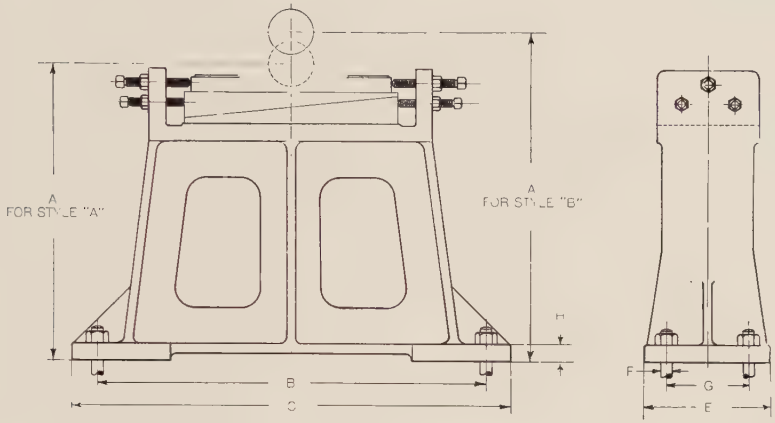
Number of Floor Stand	CODE WORD for Number	HEIGHT, BASE TO CENTER OF SHAFT, AND CODE WORD FOR HEIGHT			
		18-Inch Luctual	24-Inch Luctuosa	30-Inch Luculli	36-Inch Luenga
1	Luctitando	$18.00	$20.00	$22.00	$24.00
2	Luctitetis	24.00	26.00	28.00	30.00
3	Luctuosos	31.00	35.00	38.00	42.00
4	Luctuosum	39.00	44.00	49.00	54.00
5	Lucubracao	48.00	54.00	61.00	68.00
6	Lucubrada	61.00	70.00	80.00	90.00

Style B, Adjustable Floor Stands, With Wedges

Number of Floor Stand	CODE WORD for Number	HEIGHT, BASE TO CENTER OF SHAFT AND CODE WORD FOR HEIGHT			
		18-Inch Luilak	24-Inch Luimen	30-Inch Luisant	36-Inch Lumpig
1	Lucubrados	$33.00	$35.00	$37.00	$ 39.00
2	Lucubramus	44.00	46.00	48.00	50.00
3	Lucubraron	60.00	63.00	66.00	70.00
4	Lucubrases	77.00	82.00	87.00	92.00
5	Lucubrate	95.00	102.00	110.00	118.00
6	Lucubrator	115.00	125.00	135.00	145.00

In telegraphing, use code word for number of Floor Stand and follow with code word for height wanted.

Dimensions of Floor Stands



Plain Floor Stands, Style A, Without Wedges

Number of Floor Stand	UNIFORM DIMENSIONS				DIMENSIONS VARYING WITH HEIGHT, A							
					A=18-inch		A=24-inch		A=30-inch		A=36-inch	
	E	F	G	H	B	C	B	C	B	C	B	C
1	8	3/4	5 1/2	1	25 1/2	30 1/2	27	32	28 1/2	33 1/2	30	35
2	8	3/4	5 1/2	1 1/4	27 3/4	32 3/4	29 1/4	34 1/4	30 3/4	35 3/4	32 1/4	37 1/4
3	10	7/8	7	1 3/8	30 1/4	35 1/4	31 3/4	36 3/4	33 1/4	38 1/4	34 3/4	39 3/4
4	10 1/2	1	7 1/2	1 1/2	32 3/4	37 3/4	34 1/4	39 1/4	35 3/4	40 3/4	37 1/4	42 1/4
5	12 1/2	1 1/8	9	1 3/4	36 1/2	41 1/2	38	43	39 1/2	44 1/2	41	46
6	14 1/2	1 1/4	10 1/2	2	39 3/4	44 3/4	41 1/4	46 1/4	42 3/4	47 3/4	44 1/4	49 1/4

Adjustable Floor Stands, Style B, With Wedges

Number of Floor Stand	UNIFORM DIMENSIONS				DIMENSIONS VARYING WITH HEIGHT, A							
					A=18-inch		A=24-inch		A=30-inch		A=36-inch	
	E	F	G	H	B	C	B	C	B	C	B	C
1	8	3/4	5 1/2	1	25	30	26 1/2	31 1/2	28	33	29 1/2	34 1/2
2	8	3/4	5 1/2	1 1/4	27 1/2	32 1/2	29	34	30 1/2	35 1/2	32	37
3	10	7/8	7	1 3/8	29 1/2	34 1/2	31	36	32 1/2	37 1/2	34	39
4	10 1/2	1	7 1/2	1 1/2	32	37	33 1/2	38 1/2	35	40	36 1/2	41 1/2
5	12 1/2	1 1/8	9	1 3/4	35 1/2	40 1/2	37	42	38 1/2	43 1/2	40	45
6	14 1/2	1 1/4	10 1/2	2	39	44	40 1/2	45 1/2	42	47	43 1/2	48 1/2

Schedule of Sizes of Sole Plates and Floor Stands

Diameter of Shaft	Short Heavy Pillow Block Fig. 45539	Rigid Plain Pillow Block Fig. 45540	Rigid R. O. and W. O. Pill. Blocks Fig. 45543	Rigid Collar Oil Pillow Block Fig. 45552	Ball and Socket Pillow Block Fig. 45556	Special Heavy Pillow Blocks Fig. 45563	Ball and Socket Collar Oiling Fig. 45564	Heavy Rigid Pedestals Fig. 45542	Spherical Ring Oil Pillow Block Fig. 45565
1 3/16	.....	.....	.....	.....	.....	1	.....	.....	.....
1 7/16	.....	.....	.....	.....	.....	2	.....	.....	1
1 15/16	1	1	1	1	1	3	2	1	1
2 3/16	1	1	1	1	1	3	2	.....	2
2 7/16	1	1	1	1	1	4	2	.....	2
2 11/16	2	2	2	1	2	5	2	.....	3
2 15/16	2	2	2	2	2	5	4	2	3
3 3/16	3	3	3	2	3	5	4	.....	3
3 7/16	3	3	3	2	3	5	4	3	3
3 11/16	4	4	4	2	4	6	4	.....	4
3 15/16	4	4	4	3	4	6	5	4	4
4 3/16	.....	.....	5	.....	5	.....	.....	5	5
4 7/16	.....	.....	5	3	5	.....	5	5	5
4 11/16	.....	.....	5	.....	5	.....	.....	.....	5
4 15/16	.....	.....	5	4	5	.....	6	5	5
5 7/16	.....	.....	6	4	6	.....	6	.....	.....
5 15/16	.....	.....	6	5	.....	.....	.....	6	.....

Wall Brackets

Fig. 45569. (*Cerobite*)

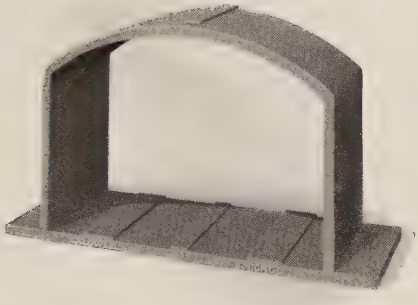
Wall brackets are made for both ball and socket and rigid pillow blocks. The price includes bolts for holding down the bearings, but does not include any bearings. Always specify diameter of shaft and style of bearing to be used, as well as projection.

Price List, Subject to Discount

Size of Shaft Inches	Extension Wall to Shaft Center	Price	CODE WORD
$1\frac{11}{16}$ to $2\frac{7}{16}$	12	$11.50	Leckstone
	18	15.50	Lecktasche
	24	22.00	Leckwasser
	30	26.00	Leckwein
	36	32.00	Lecontite
$2\frac{11}{16}$ to $3\frac{7}{16}$	12	18.50	Lecoplaque
	18	26.50	Lecosperme
	24	34.50	Lectabunt
	30	42.50	Lectaremus
	36	50.00	Lectarios
$3\frac{11}{16}$ to $4\frac{7}{16}$	12	25.00	Lectaturam
	18	35.00	Lectaturis
	24	45.00	Lectaverim
	30	55.00	Lecteurs
	36	65.00	Lecticaire
$4\frac{11}{16}$ to $5\frac{7}{16}$	18	41.00	Lecticole
	24	51.00	Lecticulis
	30	65.00	Lectionary

In telegraphing use code for bore of pulleys, page 323, for shaft diameter and follow by code word for projection as given in the list above.

Wall Box Frames



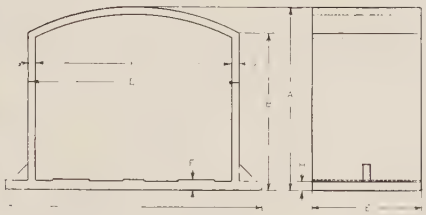


Fig. 45570. (*Celibite*)

Wall Box Frames are made in seven sizes, and to fit various thicknesses of wall. To determine the proper size of Wall Box Frame to use with any size and style of bearing, refer to the table of dimensions of the bearing to be used, where the dimensions of the base of the bearing are given. Dimension "K" of the Wall Box Frame should be at least two inches greater than the length of the base of the pillow block.

Price list below includes bolts for fastening bearings to the wall boxes, but does not include the bearings.

Price List, Subject to Discount

Number of Wall Box Frame	For Wall 9 Inches Thick		For Wall 13 Inches Thick		For Wall 17 Inches Thick	
	Price Each	CODE WORD	Price Each	CODE WORD	Price Each	CODE WORD
0	$ 9.00	Luellarum	$13.50	Luendis	$18.00	Luftbaeder
1	11.00	Luellis	16.00	Luengos	21.00	Luftballon
2	13.50	Luendam	20.00	Lueritis	26.50	Luftbilder
3	.....	.....	24.00	Lufalufa	32.00	Luftblase
4	.....	.....	32.00	Luffenmehl	42.50	Luftblume
5	.....	.....	40.00	Luftader	53.00	Luftdruck
6	.....	.....	48.00	Luftartig	65.00	Luftfahrer

Dimensions, Inches

No. of Frame	A	B	C	D	F	G	H	K
0	10	8½	18	13¼	⅝	⅝	⅝	12
1	13	10⅜	21¼	16¼	¾	⅝	⅝	15
2	14	10⅞	24¼	19¼	¾	⅝	11/16	18
3	18	15⅜	25¼	20¾	1	¾	¾	19
4	20¾	17⅜	28⅜	23⅝	1	⅞	⅞	22
5	24	21¼	35	29	1⅛	⅞	⅞	27
6	28	24	38	32	1⅛	⅞	⅞	30

Dimension "E" corresponds to thickness of the wall, see price list above.

Bearings for Vertical Shafts

Fig. 45571. (*Landauer*)

The oil well is provided with special capillary oiling device that thoroughly oils the bearing and at the same time prevents dripping.

Price List, Subject to Discount

Diam. of Shaft Inches	Price	CODE WORD	Diam. of Shaft Inches	Price	CODE WORD
$1\frac{7}{16}$	$ 8.50	Landbaken	$2\frac{11}{16}$	$16.50	Landbiber
$1\frac{11}{16}$	9.50	Landbaron	$2\frac{15}{16}$	20.00	Landbiere
$1\frac{15}{16}$	10.50	Landbau	$3\frac{3}{16}$	26.00	Landbode
$2\frac{3}{16}$	12.00	Landbezirk	$3\frac{7}{16}$	30.00	Landbrot
$2\frac{7}{16}$	13.50	Landbezit	$3\frac{15}{16}$	40.00	Landbrotes

Step Boxes for Vertical Shafts

Fig. 45572. (*Cathartist*)
Plain pattern, babbitted bore and finished for the end of shaft.

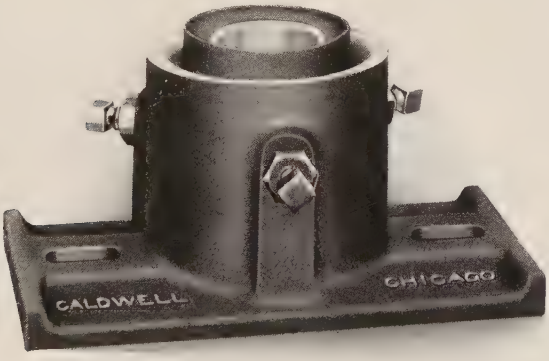


Fig. 45573. (*Catarrh*)
Adjustable pattern with brass bushing and tempered steel button.

Price List, Subject to Discount

Diameter of Shaft, Inches	Price, Rigid	CODE WORD	Price, Adjustable	CODE WORD
$1\frac{3}{16}$	$ 5.00	Lederholz	$15.00	Lederprobe
$1\frac{7}{16}$	6.00	Lederhoze	17.50	Lederriem
$1\frac{11}{16}$	7.00	Lederig	20.00	Ledersack
$1\frac{15}{16}$	8.00	Lederkaese	23.00	Lederschuh
$2\frac{3}{16}$	9.50	Lederkalk	27.50	Ledersohle
$2\frac{7}{16}$	11.00	Lederkork	32.50	Ledersopha
$2\frac{11}{16}$	13.50	Ledermappe	40.00	Ledersteg
$2\frac{15}{16}$	17.00	Ledermaske	50.00	Lederstof
$3\frac{7}{16}$	22.00	Ledermesse	65.00	Ledertuch
$3\frac{15}{16}$	30.00	Lederpolyp	90.00	Lederwaare

Rigid Plain Post Boxes

Fig. 45574. (*Capitation*)

Our rigid plain post boxes are substantial and well proportioned. The bearings are bored to size after being babbitted, and the ends of the bearings and the back of the post box are finished.

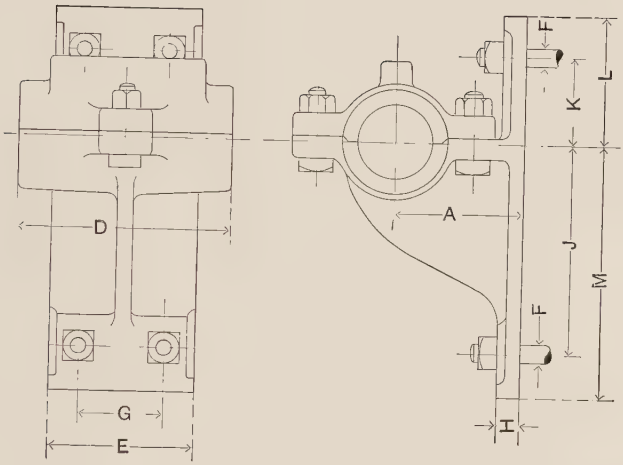
The bearings up to and including $2\frac{11}{16}$" are made with two bolt holes in base and larger sizes with four bolt holes.

Price List, Subject to Discount

Shaft Size, Inches	Price	CODE WORD	Shaft Size, Inches	Price	CODE WORD
$\frac{15}{16}$	$3.40	Capitulate	$2\frac{3}{16}$	$ 7.25	Cappadine
1	3.40	Capoch	$2\frac{7}{16}$	8.35	Capper
$1\frac{3}{16}$	3.50	Capolado	$2\frac{11}{16}$	9.15	Capreolus
$1\frac{7}{16}$	3.60	Capon	$2\frac{15}{16}$	10.35	Capibarra
$1\frac{11}{16}$	4.10	Caponize	$3\frac{3}{16}$	12.70	Capirotero
$1\frac{15}{16}$	5.45	Capote	$3\frac{7}{16}$	14.10	Capistrum

For dimensions, see opposite page.

Dimensions of Rigid Plain Post Boxes



Diam. of Shaft, Inches	DIMENSIONS, INCHES									
	A	D	E	F	G	H	J	K	L	M
15/16	2 1/2	3	2 1/4	3/8	.....	3/8	3 3/4	1 1/2	2 1/2	4 3/4
1	2 1/2	3	2 1/4	3/8	.....	3/8	3 3/4	1 1/2	2 1/2	4 3/4
1 3/16	2 3/4	3 3/4	3	3/8	.....	1/2	4 1/4	1 3/4	2 3/4	5 1/4
1 7/16	3	4 1/2	3 5/8	1/2	.....	1/2	4 7/8	1 7/8	3	6
1 1/2	3	4 1/2	3 5/8	1/2	.....	1/2	4 7/8	1 7/8	3	6
1 11/16	3 1/2	5 1/4	4	5/8	.....	5/8	5 3/8	2 3/8	3 5/8	6 5/8
1 15/16	3 3/4	6	4 1/4	5/8	.....	5/8	5 3/4	2 3/4	4 1/4	7 1/4
2 3/16	3 1/2	7	4 3/8	5/8	.....	3/4	5 3/4	2 1/2	4	7 1/4
2 7/16	4 1/4	7	4 3/4	5/8	.....	3/4	6 3/4	2 3/4	4 1/4	8 1/4
2 11/16	4 1/2	8 1/4	5	5/8	.....	3/4	7 1/4	3 1/4	4 5/8	8 3/4
2 15/16	4 1/2	9	5 1/4	5/8	3 1/4	7/8	7 3/4	3 1/4	4 3/4	9 1/4
3 3/16	6	9 3/4	7	3/4	4 1/2	1	9 1/2	4 1/4	6	12
3 7/16	6	9 3/4	7	3/4	4 1/2	1	9 1/2	4 1/4	6	12

Rigid Post Boxes

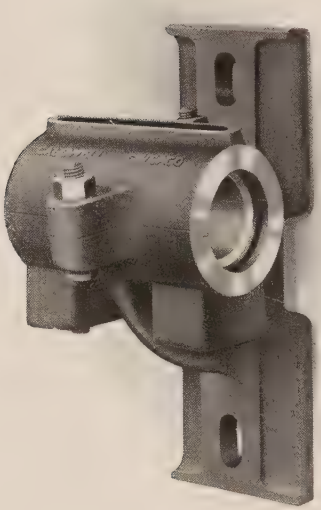


Fig. 45575. (*Captivate*)
Wick-Oiling

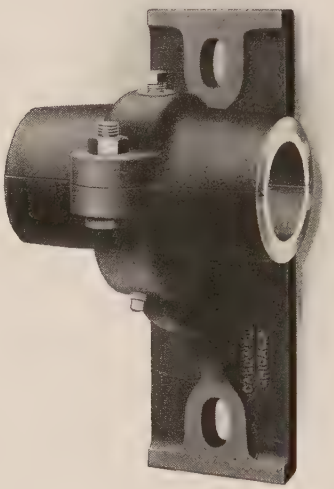


Fig. 45576. (*Captivity*)
Ring-Oiling

Our rigid wick oiling and ring-oiling post boxes are heavy and substantial. The bearings up to and including $2\frac{11}{16}$" are made with two bolt holes in base, as shown, and larger sizes with four bolt holes.

The bearings are babbitted and bored to size after babbitting. The ends of the bearings are faced and the back of the post box is finished.

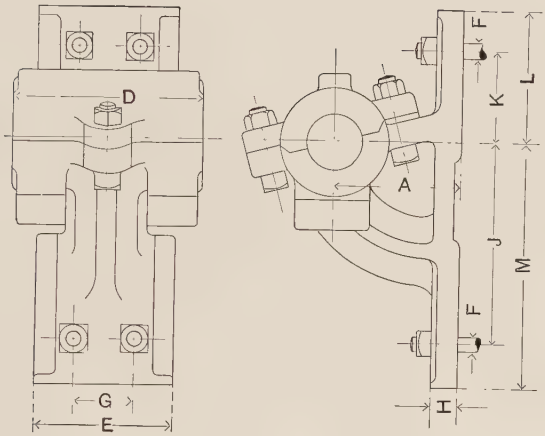
Price List, Subject to Discount

Shaft Size, Inches	Price	CODE WORD	Shaft Size, Inches	Price	CODE WORD
$\frac{15}{16}$	$ 4.50	Capuchin	$2\frac{15}{16}$	$16.50	Carbine
1	4.50	Capulet	$3\frac{3}{16}$	20.00	Carbonada
$1\frac{3}{16}$	5.00	Carabineer	$3\frac{7}{16}$	24.00	Carbonic
$1\frac{7}{16}$	5.75	Caracole	$3\frac{11}{16}$	28.00	Carbonized
$1\frac{11}{16}$	6.50	Caracoling	$3\frac{15}{16}$	32.00	Carbuncle
$1\frac{15}{16}$	7.50	Caracouler	$4\frac{3}{16}$	36.00	Carcass
$2\frac{3}{16}$	9.00	Carambola	$4\frac{7}{16}$	40.00	Carcelage
$2\frac{7}{16}$	10.50	Carantona	$4\frac{11}{16}$	45.00	Carcinome
$2\frac{11}{16}$	13.00	Caravan	$4\frac{15}{16}$	50.00	Cardboard

For dimensions, see opposite page.

Dimensions of Rigid Post Boxes

Wick-Oiling and Ring-Oiling



Diam. of Shaft, Inches	DIMENSIONS, INCHES									
	A	D	E	F	G	H	J	K	L	M
15/16	2 1/2	3	2 1/4	3/8	.....	3/8	3 3/4	1 1/2	2 1/2	4 3/4
1	2 1/2	3	2 1/4	3/8	.....	3/8	3 3/4	1 1/2	2 1/2	4 3/4
1 3/16	2 3/4	3 3/4	2 3/4	3/8	.....	5/8	4 3/8	1 5/8	2 5/8	5 1/2
1 7/16	3 1/2	4 1/2	3 3/8	5/8	.....	5/8	4 5/8	2 7/8	4 1/8	5 7/8
1 11/16	3 3/4	5 1/4	3 1/2	5/8	.....	3/4	5 1/2	2 3/4	4	6 3/4
1 15/16	4	6	4	5/8	.....	7/8	5 7/8	3 1/8	4 1/2	7 1/4
2 3/16	4 1/2	6 1/2	4 1/2	5/8	.....	7/8	6 5/8	2 7/8	4 1/2	8 1/4
2 7/16	5	7 1/2	5	5/8	.....	1	8 1/8	3 3/8	5	9 3/4
2 11/16	5 1/4	8	5 1/2	3/4	.....	1	7 7/8	3 7/8	5 1/2	9 1/2
2 15/16	5 1/2	8 3/4	6	3/4	3 1/2	1	9 1/4	4	5 5/8	10 7/8
3 3/16	5 3/4	9 1/4	6 1/2	3/4	3 3/4	1	9 1/4	3 3/4	5 3/4	11 1/4
3 7/16	6	9 3/4	7	3/4	4	1	10 1/8	4 1/8	6	12
3 11/16	6 3/4	11 1/2	7 3/4	3/4	4 1/4	1	11 1/8	4 5/8	6 1/2	13
3 15/16	6 3/4	11 1/2	7 3/4	3/4	4 1/4	1	11 1/8	4 5/8	6 1/2	13
4 3/16	7 1/2	12 1/2	9	7/8	5	1 3/8	11 1/2	5	7 1/4	14
4 7/16	7 1/2	12 1/2	9	7/8	5	1 3/8	11 1/2	5	7 1/4	14
4 11/16	8	14 1/4	10	1	5 1/2	1 1/2	14 1/4	4 1/4	6 1/2	16 1/2
4 15/16	8	14 1/4	10	1	5 1/2	1 1/2	14 1/4	4 1/4	6 1/2	16 1/2

Rigid Collar-Oiling Post Boxes

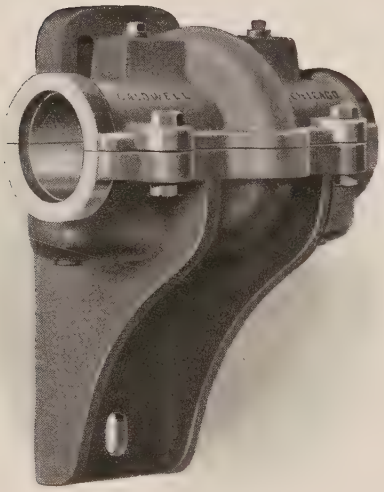


Fig. 45577. (*Lauschiges*)

These post boxes are very heavy and suitable for severe service. The bearings are babbitted and bored to size after babbitting. The ends of the bearings are faced and the back of the post box is finished.

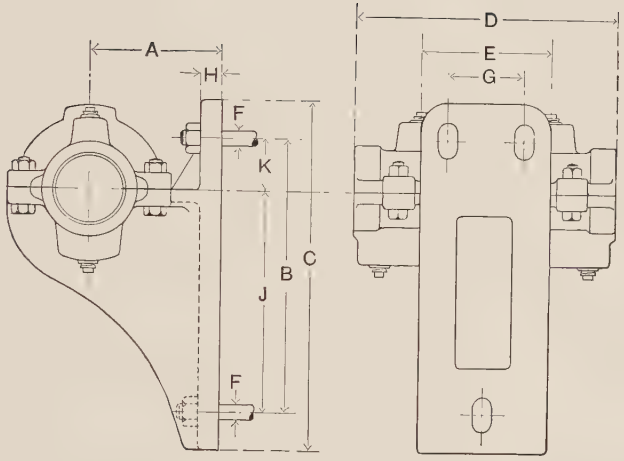
Description of the collar-oiling device will be found on page 633.

Price List, Subject to Discount

Diameter of Shaft, Inches	Price	CODE WORD	Diameter of Shaft, Inches	Price	CODE WORD
$1\frac{15}{16}$	$19.50	Lederwagen	$3\frac{3}{16}$	$ 42.00	Lediggang
$2\frac{3}{16}$	22.00	Lederzeug	$3\frac{7}{16}$	51.00	Lediging
$2\frac{7}{16}$	25.00	Ledesma	$3\frac{11}{16}$	63.00	Ledigkeit
$2\frac{11}{16}$	28.00	Ledewater	$3\frac{15}{16}$	80.00	Lediglich
$2\frac{15}{16}$	33.50	Ledgers	$4\frac{7}{16}$	100.00	Ledocarpe

For dimensions, see opposite page.

Dimensions of Rigid Collar-Oiling Post Boxes



Diam. of Shaft, Inches	DIMENSIONS, INCHES									
	A	B	C	D	E	F	G	H	J	K
$1\frac{15}{16}$	6	$9\frac{1}{4}$	$11\frac{3}{4}$	8	$4\frac{1}{2}$	$\frac{5}{8}$	$2\frac{3}{4}$	$\frac{3}{4}$	$7\frac{1}{4}$	2
$2\frac{3}{16}$	6	$9\frac{1}{4}$	$11\frac{3}{4}$	8	$4\frac{1}{2}$	$\frac{5}{8}$	$2\frac{3}{4}$	$\frac{3}{4}$	$7\frac{1}{4}$	2
$2\frac{7}{16}$	6	$10\frac{3}{4}$	14	10	$5\frac{1}{4}$	$\frac{3}{4}$	3	$\frac{7}{8}$	$8\frac{3}{8}$	$2\frac{3}{8}$
$2\frac{11}{16}$	6	$10\frac{3}{4}$	14	10	$5\frac{1}{4}$	$\frac{3}{4}$	3	$\frac{7}{8}$	$8\frac{3}{8}$	$2\frac{3}{8}$
$2\frac{15}{16}$	6	$12\frac{1}{2}$	16	12	6	$\frac{3}{4}$	$3\frac{1}{2}$	1	$10\frac{1}{8}$	$2\frac{3}{8}$
$3\frac{3}{16}$	6	$12\frac{1}{2}$	16	12	6	$\frac{3}{4}$	$3\frac{1}{2}$	1	$10\frac{1}{8}$	$2\frac{3}{8}$
$3\frac{7}{16}$	6	14	18	14	$6\frac{1}{2}$	$\frac{7}{8}$	$3\frac{3}{4}$	$1\frac{1}{8}$	11	3
$3\frac{11}{16}$	6	14	18	14	$6\frac{1}{2}$	$\frac{7}{8}$	$3\frac{3}{4}$	$1\frac{1}{8}$	11	3
$3\frac{15}{16}$	6	$15\frac{3}{4}$	20	16	7	1	4	$1\frac{1}{4}$	$12\frac{3}{8}$	$3\frac{3}{8}$
$4\frac{7}{16}$	6	$15\frac{3}{4}$	20	16	7	1	4	$1\frac{1}{4}$	$12\frac{3}{8}$	$3\frac{3}{8}$

Ball and Socket Post Hangers

Open Side Pattern

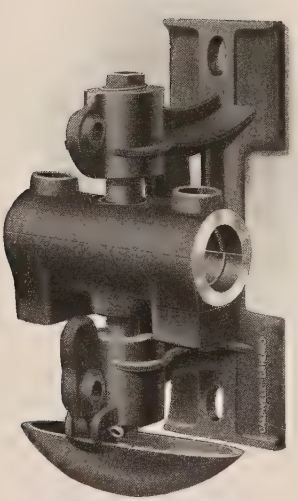


Fig. 45578. (*Calcitrate*)
Wick-Oiling, Single Braced

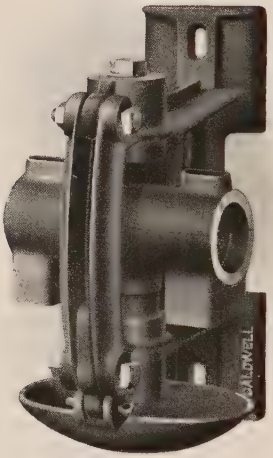


Fig. 45579. (*Calceton*)
Wick-Oiling, Double Braced

Fig. 45580. (*Calcescence*)
Ring-Oiling, Single Braced

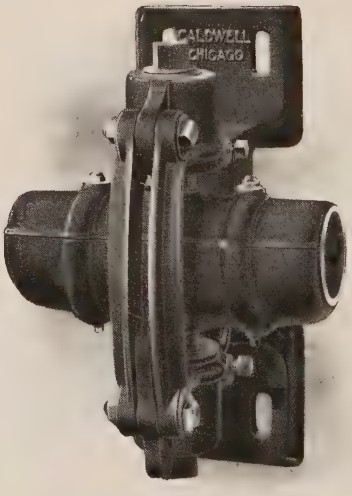


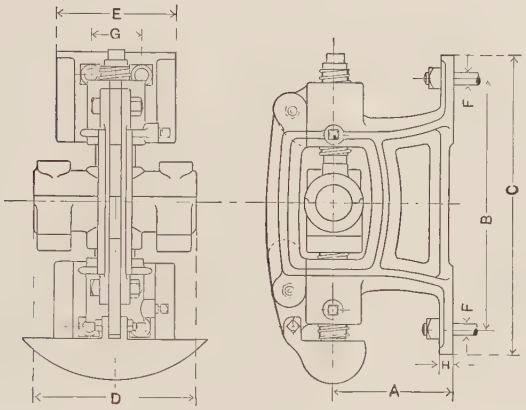
Fig. 45581. (*Calfat*)
Ring-Oiling, Double Braced

For price list and dimensions, see opposite page.

Ball and Socket Post Hangers

Open Side Pattern

Wick-Oiling and Ring-Oiling, Single or Double Braced



The bearings are babbitted and bored to size after babbitting. The ends of the bearing and the back of the post hanger are faced.

Price List, Subject to Discount

Diam. of Shaft, Inches	Price Single Braced	Price Double Braced	Code Word for Shaft Diameter	DIMENSIONS, INCHES							
				A	B	C	D	E	F	G	H
1 3/16	$ 7.00	$ 8.00	Lautenton	6	11 3/8	13 3/4	6	4 3/8	1/2	.....	1/2
1 7/16	8.00	9.00	Lautendes	6	11 3/8	13 3/4	6	4 3/8	1/2	.....	1/2
1 11/16	9.00	10.00	Lautenzug	6	11 3/8	13 3/4	7	4 3/8	1/2	.....	1/2
1 15/16	10.00	11.50	Lauthopine	6	12 1/4	14 3/4	8	5	5/8	.....	3/4
2 3/16	12.00	13.50	Lauterkeit	6	13 1/2	17	9	5 1/2	5/8	.....	7/8
2 7/16	13.00	15.00	Lautgesetz	6	14 1/2	18 1/4	10	7	3/4	4	7/8
2 11/16	15.00	17.00	Lautlehre	6	14 1/2	18 1/4	12	7	3/4	4	7/8
2 15/16	17.00	19.00	Lautlich	6	14 1/2	18 1/4	12	7	3/4	4	7/8
3 3/16	22.00	24.00	Lautlos	6	16	19 1/2	13	7 1/2	3/4	4 1/2	1
3 7/16	26.00	28.00	Lautloses	6	17 1/4	20 3/4	14	7 1/2	3/4	4 1/2	1
3 11/16	31.00	33.00	Lautularum	8	19	23	14	8	3/4	4 1/2	1
3 15/16	35.00	37.00	Lautumiae	8	19	23	14	8	3/4	4 1/2	1
4 3/16	42.00	44.00	Lauturam	8	23	29	18	9	7/8	5	1 1/8
4 7/16	46.00	48.00	Lauturos	8	23	29	18	9	7/8	5	1 1/8
4 15/16	60.00	63.00	Lauxanide	8	27	32 1/2	20	9 1/2	1	5 1/2	1 1/8
5 7/16	85.00	88.00	Lavabrorum	8	31	36 1/4	22	10	1 1/8	6	1 1/4
5 15/16	110.00	113.00	Lavabrum	8	31	36 1/4	24	10	1 1/8	6	1 1/4

In telegraphing use code word for shaft diameter listed above and follow by code word under cut of style wanted as shown on opposite page.

Ball and Socket Ring-Oiling Post Hangers

Four-Way Pattern

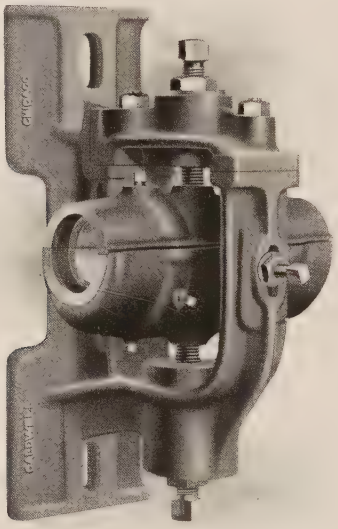


Fig. 45582. (*Largifluos*)

The Four-Way pattern post hanger is adjustable, as its name implies, in all directions.

Bearings up to and including $2\frac{7}{16}$" are made with two bolt holes in base, and larger sizes with four bolt holes.

The bearings are babbitted and bored to size after babbitting. The ends of the bearing and the back of the hanger are faced.

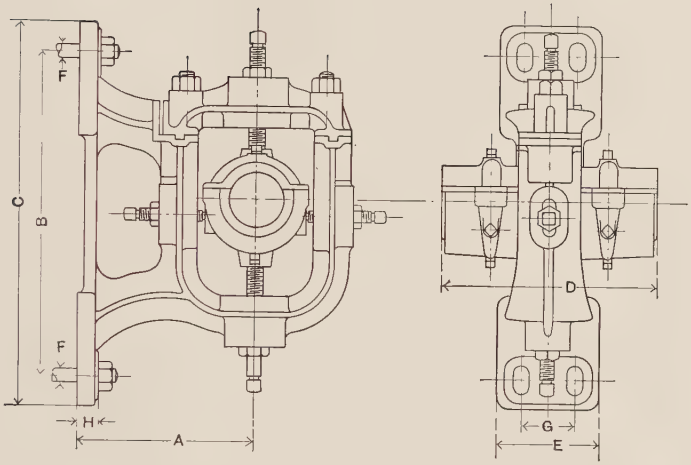
Price List, Subject to Discount

Diameter of Shaft, Inches	Price	CODE WORD	Diameter of Shaft, Inches	Price	CODE WORD
$1\frac{3}{16}$	$ 7.00	Ledocarpon	$2\frac{11}{16}$	$19.00	Leeftijd
$1\frac{7}{16}$	8.50	Leeches	$2\frac{15}{16}$	23.00	Leeftijden
$1\frac{11}{16}$	10.00	Leedwezen	$3\frac{3}{16}$	29.00	Leeftocht
$1\frac{15}{16}$	12.50	Leefange	$3\frac{7}{16}$	33.00	Leegloopen
$2\frac{3}{16}$	14.00	Leefden	$3\frac{11}{16}$	36.00	Leegmaken
$2\frac{7}{16}$	16.00	Leefregels	$3\frac{15}{16}$	39.00	Leegstaan

For dimensions, see opposite page.

Dimensions of Ball and Socket Ring-Oiling Post Hangers

Four-Way Pattern



Diameter of Shaft, Inches	DIMENSIONS, INCHES							
	A	B	C	D	E	F	G	H
1 3/16	9	11	13 1/2	5	3	1/2	...	3/4
1 7/16	9	11 7/8	14 1/2	6	3 3/8	1/2	...	3/4
1 11/16	9	12 3/4	15 1/2	7	3 3/4	5/8	...	7/8
1 15/16	9	13 5/8	16 1/2	8	4 1/8	5/8	...	7/8
2 3/16	9	14 1/2	17 1/2	9	4 1/2	3/4	...	1
2 7/16	9	15 3/8	18 1/2	10	4 7/8	3/4	...	1
2 11/16	9	16 1/2	19 1/2	11	5 1/4	3/4	2 3/4	1
2 15/16	9	17 1/8	20 1/2	12	5 5/8	3/4	2 3/4	1
3 3/16	9	18 7/8	22 1/2	13	6 3/8	3/4	3 1/4	1
3 7/16	9	18 7/8	22 1/2	14	6 3/8	3/4	3 1/4	1
3 11/16	9	20 5/8	24 1/2	15	7 1/8	3/4	3 3/4	1
3 15/16	9	20 5/8	24 1/2	16	7 1/8	3/4	3 3/4	1

For price list, see opposite page.

Special Heavy Ball and Socket Post Hangers

Ring-Oiling and Chain-Oiling

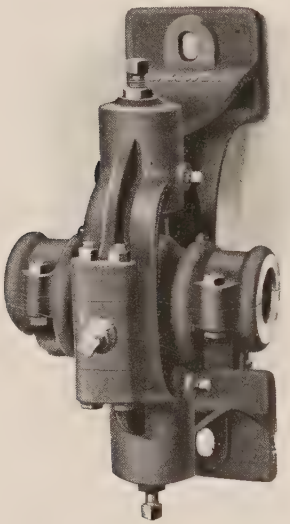


Fig. 45583. (*Callcard*)

The special heavy post hangers are made for service where the ordinary pattern would not be strong enough. They are adjustable in all directions, and suitable for the most severe service.

Furnished with either ring-oiling or chain-oiling bearings, and if desired with concealed collars, for which an extra charge is made.

The ends of the bearing and the back of the hanger are faced. The bearings are babbitted and bored to size after babbitting.

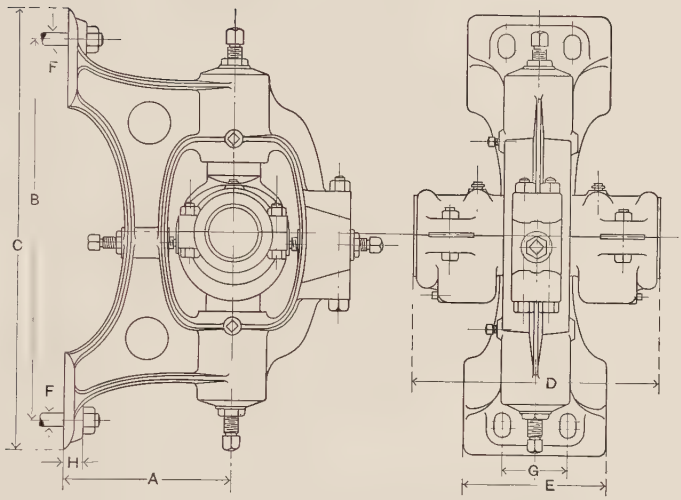
Price List, Subject to Discount

Diameter of Shaft, Inches	Price	CODE WORD	Diameter of Shaft, Inches	Price	CODE WORD
$\frac{15}{16}$	$13.00	Cailletage	$3\frac{1}{16}$	$ 63.00	Calquer
$1\frac{3}{16}$	15.50	Callosity	$3\frac{15}{16}$	70.00	Caltrops
$1\frac{7}{16}$	18.00	Callous	$4\frac{3}{16}$	78.00	Calamarius
$1\frac{11}{16}$	20.50	Callipers	$4\frac{7}{16}$	85.00	Calumet
$1\frac{15}{16}$	24.00	Calmly	$4\frac{11}{16}$	100.00	Calameggio
$2\frac{3}{16}$	29.00	Calmness	$4\frac{15}{16}$	110.00	Calumniate
$2\frac{7}{16}$	35.00	Calocha	$5\frac{7}{16}$	133.00	Calumny
$2\frac{11}{16}$	40.00	Calomel	$5\frac{15}{16}$	165.00	Calabaccia
$2\frac{15}{16}$	45.00	Caloric	$6\frac{1}{2}$	200.00	Calabazona
$3\frac{3}{16}$	51.00	Calosoma	7	230.00	Calabobos
$3\frac{7}{16}$	56.00	Calotype			

For dimensions, see opposite page.

Dimensions of Special Heavy Pattern Ball and Socket Post Hangers

Ring-Oiling and Chain-Oiling



Diameter of Shaft, Inches	DIMENSIONS, INCHES							
	A	B	C	D	E	F	G	H
15/16	5	12	14 3/4	4 3/4	6	1/2	.....	3/4
1 3/16	5	12	14 3/4	6	6	1/2	.....	3/4
1 7/16	6	15 1/2	18	7 1/4	6 1/2	5/8	.....	7/8
1 11/16	6	15 1/2	18	8 1/2	6 1/2	5/8	.....	7/8
1 15/16	8	19 3/4	23 1/4	9 3/4	7	3/4	.....	1
2 3/16	8	19 3/4	23 1/4	11	7	3/4	.....	1
2 7/16	9	21	25	12 1/4	7 1/2	7/8	.....	1
2 11/16	9	22	26	13 1/2	8	7/8	.....	1 1/8
2 15/16	9	22	26	14 3/4	8	7/8	.....	1 1/8
3 3/16	11	25 1/4	29 1/4	16	9 1/2	7/8	4 3/8	1 1/4
3 7/16	11	25 1/4	29 1/4	16 1/4	9 1/2	7/8	4 3/8	1 1/4
3 11/16	11	26 1/2	31 1/2	19 3/4	9 1/2	1	4 7/8	1 1/2
3 15/16	11	26 1/2	31 1/2	19 3/4	9 1/2	1	4 7/8	1 1/2
4 3/16	13	30 1/2	35 1/2	22 1/4	10 1/4	1	5 1/4	1 5/8
4 7/16	13	30 1/2	35 1/2	22 1/4	10 1/4	1	5 1/4	1 5/8
4 11/16	13	32 1/2	37 1/2	24 3/4	10 1/2	1	5 5/8	1 5/8
4 15/16	13	32 1/2	37 1/2	24 3/4	10 1/2	1	5 5/8	1 5/8
5 7/16	15	37	42 1/2	26	11 1/4	1 1/8	6 1/4	1 3/4
5 15/16	15	37	42 1/2	27	11 1/4	1 1/8	6 1/4	1 3/4
6 1/2	15	40	46	29 1/2	12	1 1/4	6 3/4	2
7	15	40	46	32 1/2	12	1 1/4	6 3/4	2

Ball and Socket Collar-Oiling Post Hangers

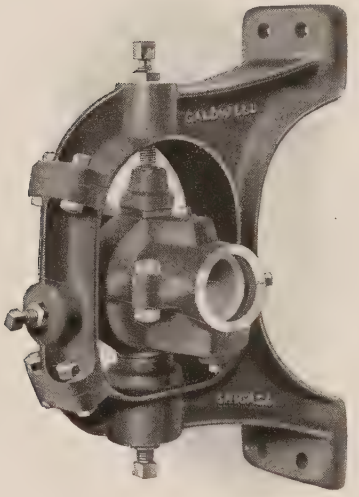


Fig. 45584. (*Lababunt*)

These post hangers have horizontal and vertical adjustment, and the frames are heavy and well proportioned. The bearings are babbitted and bored to size, and the ends of the bearings and the back of the hanger are faced.

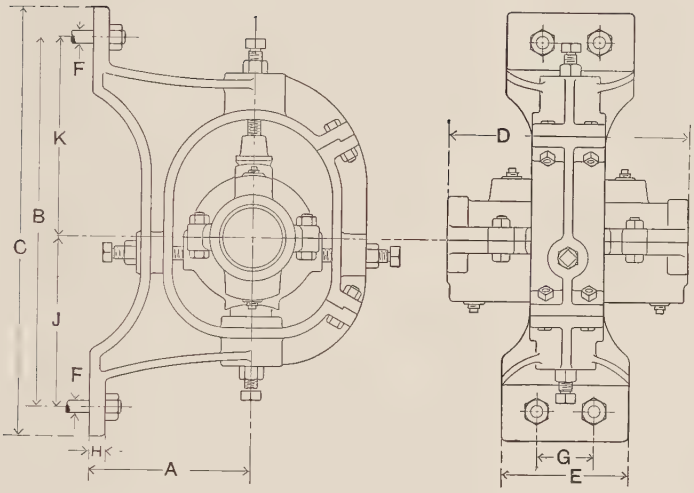
Description of collar-oiling device on page 633.

Price List, Subject to Discount

Diameter of Shaft, Inches	Price	CODE WORD	Diameter of Shaft, Inches	Price	CODE WORD
$1\frac{15}{16}$	$15.50	Leegzitten	$3\frac{11}{16}$	$ 50.00	Leenboek
$2\frac{3}{16}$	17.50	Leemachtig	$3\frac{15}{16}$	63.00	Leenboeken
$2\frac{7}{16}$	18.50	Leemiger	$4\frac{7}{16}$	80.00	Leeperd
$2\frac{11}{16}$	22.00	Leemmortel	$4\frac{15}{16}$	100.00	Leepheid
$2\frac{15}{16}$	26.50	Leemput	$5\frac{7}{16}$	120.00	Leepigheid
$3\frac{3}{16}$	33.00	Leemputten	$5\frac{15}{16}$	145.00	Leerbegrip
$3\frac{7}{16}$	40.00	Leemwerk			

For dimensions, see opposite page.

Dimensions of Ball and Socket Collar-Oiling Post Hangers



Diam. of Shaft, Inches	DIMENSIONS, INCHES									
	A	B	C	D	E	F	G	H	J	K
$1\frac{15}{16}$	9	19½	22	8½	6½	¾	2½	⅞	8⅞	10⅝
$2\frac{3}{16}$	9	19½	22	8½	6½	¾	2½	⅞	8⅞	10⅝
$2\frac{7}{16}$	9	19½	22	10	6½	¾	2½	⅞	8⅞	10⅝
$2\frac{11}{16}$	9	19½	22	10	6½	¾	2½	⅞	8⅞	10⅝
$2\frac{15}{16}$	9	22	25	12	8	⅞	3¼	1	10	12
$3\frac{3}{16}$	9	22	25	12	8	⅞	3¼	1	10	12
$3\frac{7}{16}$	9	22	25	14	8	⅞	3¼	1	10	12
$3\frac{11}{16}$	9	22	25	14	8	⅞	3¼	1	10	12
$3\frac{15}{16}$	11	27	32	16	9½	1	4¼	1⅛	12½	14½
$4\frac{7}{16}$	11	27	32	18	9½	1	4¼	1⅛	12½	14½
$4\frac{15}{16}$	11	32½	37	20	11	1⅛	5	1¼	15¼	17¼
$5\frac{7}{16}$	11	32½	37	20	11	1⅛	5	1¼	15¼	17¼
$5\frac{15}{16}$	13	38	44	22	12	1¼	7	1½	18⅛	19⅞

Ball and Socket Drop Hangers

Single Braced Open Side Pattern

Fig. 45585. (*Cardelina*)
Wick-Oiling

Fig. 45586. (*Carping*)
Ring-Oiling

The bearings are babbitted and bored, and the ends of the bearings are faced. The feet are finished.

Price List, Subject to Discount

Diam. of Shaft, Inches	DROP IN INCHES						
	10	12	15	18	21	24	30
$1\frac{3}{16}$	$ 7.50	$ 7.75	.....	.....	.....	.....	.....
$1\frac{7}{16}$	8.25	8.50	$ 9.50	.....	.....	.....	.....
$1\frac{11}{16}$	9.00	9.25	10.00	$11.00	$12.25	.....	.....
$1\frac{15}{16}$	10.00	10.25	11.00	11.75	12.50	$13.50	.....
$2\frac{3}{16}$	11.75	12.00	12.75	13.50	14.50	15.75	$18.00
$2\frac{7}{16}$	12.50	12.75	13.50	14.50	15.75	17.00	19.00
$2\frac{11}{16}$	14.50	15.25	16.25	17.50	19.00	21.00	24.00
$2\frac{15}{16}$	17.25	18.25	19.50	21.00	22.75	24.50	27.50
$3\frac{3}{16}$	.....	23.00	24.50	26.00	28.50	31.00	35.00
$3\frac{7}{16}$	.....	27.00	28.50	30.00	32.50	35.00	39.00
$3\frac{11}{16}$	.....	31.50	33.25	35.00	38.00	41.00	46.00
$3\frac{15}{16}$	.....	.....	37.00	39.00	42.00	45.00	50.00
$4\frac{7}{16}$	.....	.....	43.50	46.00	49.50	53.00	59.00
$4\frac{15}{16}$	.....	.....	.....	60.00	63.50	67.00	73.00

The drop of the hanger is the vertical distance from the foot to the center of box.
Price list of ball and socket inverted hanger or floor stand same as above.
For countershaft hanger add $1.00 net for shifter arm.
In telegraphing use code word on page 697 for shaft diameter and drop of hanger, and follow by code word under cut showing style of hanger.
For dimensions see pages 686 and 687.

Ball and Socket Drop Hangers

Double Braced Open Side Pattern

Fig. 45587. *(Carking)* Wick-Oiling

Fig. 45588. *(Cartonnage)* Ring-Oiling

The bearings are babbitted and bored, and the ends of the bearings are faced. The feet are finished.

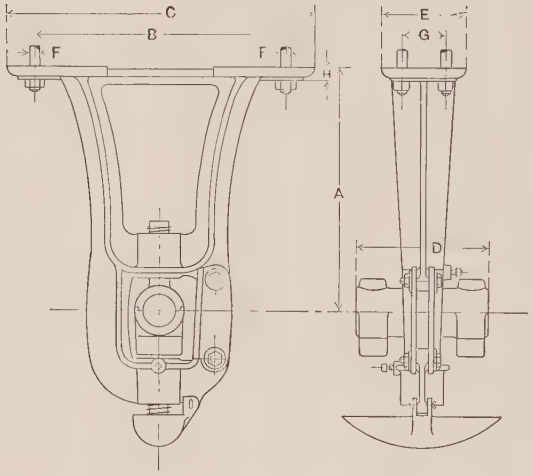
Price List, Subject to Discount

Diam. of Shaft, Inches	DROP IN INCHES						
	10	12	15	18	21	24	30
$1\frac{3}{16}$	$ 8.50	$ 8.75	.....	.....	.....	.....	.....
$1\frac{7}{16}$	9.25	9.50	$10.50	.....	.....	.....	.....
$1\frac{11}{16}$	10.00	10.25	11.00	$12.00	$13.25	.....	.....
$1\frac{15}{16}$	11.00	11.25	12.00	12.75	13.50	$14.50	.....
$2\frac{3}{16}$	13.00	13.25	14.00	14.75	15.75	17.00	$19.25
$2\frac{7}{16}$	14.00	14.25	15.00	16.00	17.25	18.50	20.50
$2\frac{11}{16}$	16.25	17.00	18.00	19.25	20.75	22.75	25.75
$2\frac{15}{16}$	19.00	20.00	21.25	22.75	24.50	26.25	29.25
$3\frac{3}{16}$	.....	25.00	26.50	28.00	30.50	33.00	37.00
$3\frac{7}{16}$	.....	29.00	30.50	32.00	34.50	37.00	41.00
$3\frac{11}{16}$	.....	33.75	35.50	37.25	40.25	43.25	48.25
$3\frac{15}{16}$	.....	.....	39.25	41.25	44.25	47.25	52.25
$4\frac{7}{16}$	.....	.....	46.00	48.50	52.00	55.50	61.50
$4\frac{15}{16}$	.....	.....	.....	63.00	66.50	70.00	76.00

The drop of the hanger is the vertical distance from the foot to the center of box.
Price of ball and socket inverted hanger or floor stand same as above.
For countershaft hanger add $1.00 net for shifter arm.
In telegraphing use code word on page 697, for shaft diameter and drop of hanger, and follow by code word under cut showing style of hanger.
For dimensions see pages 686 and 687.

Dimensions of Ball and Socket Drop Hangers

Open Side Pattern



Diam. of Shaft, Inches	DIMENSIONS, INCHES							
	A	B	C	D	E	F	G	H
$1\frac{3}{16}$	10	$11\frac{3}{4}$	$14\frac{3}{4}$	$4\frac{3}{4}$	$4\frac{1}{4}$	$\frac{5}{8}$	.....	$\frac{1}{2}$
$1\frac{3}{16}$	12	$12\frac{1}{2}$	$15\frac{1}{2}$	$4\frac{3}{4}$	$4\frac{1}{2}$	$\frac{5}{8}$	.....	$\frac{1}{2}$
$1\frac{7}{16}$	10	$11\frac{3}{4}$	$14\frac{3}{4}$	6	$4\frac{1}{4}$	$\frac{5}{8}$	.....	$\frac{1}{2}$
$1\frac{7}{16}$	12	$12\frac{1}{2}$	$15\frac{1}{2}$	6	$4\frac{1}{2}$	$\frac{5}{8}$	.....	$\frac{1}{2}$
$1\frac{7}{16}$	15	$14\frac{1}{2}$	18	6	$4\frac{3}{4}$	$\frac{5}{8}$	.....	$\frac{5}{8}$
$1\frac{11}{16}$	10	12	$15\frac{3}{8}$	7	$4\frac{1}{4}$	$\frac{5}{8}$	.....	$\frac{5}{8}$
$1\frac{11}{16}$	12	13	16	7	$4\frac{1}{2}$	$\frac{5}{8}$	.....	$\frac{5}{8}$
$1\frac{11}{16}$	15	$14\frac{1}{2}$	18	7	$4\frac{3}{4}$	$\frac{5}{8}$	.....	$\frac{5}{8}$
$1\frac{11}{16}$	18	$15\frac{1}{2}$	19	7	5	$\frac{5}{8}$	.....	$\frac{5}{8}$
$1\frac{11}{16}$	21	$17\frac{1}{8}$	$21\frac{1}{4}$	7	5	$\frac{5}{8}$	.....	$\frac{3}{4}$
$1\frac{15}{16}$	10	12	$15\frac{3}{8}$	8	$4\frac{1}{4}$	$\frac{5}{8}$	.....	$\frac{5}{8}$
$1\frac{15}{16}$	12	$13\frac{3}{4}$	17	8	$4\frac{1}{2}$	$\frac{5}{8}$	.....	$\frac{5}{8}$
$1\frac{15}{16}$	15	$15\frac{1}{2}$	19	8	$5\frac{1}{8}$	$\frac{5}{8}$	.....	$\frac{3}{4}$
$1\frac{15}{16}$	18	$16\frac{7}{8}$	$20\frac{1}{2}$	8	$5\frac{1}{2}$	$\frac{5}{8}$	.....	$\frac{3}{4}$
$1\frac{15}{16}$	21	18	$21\frac{7}{8}$	8	$5\frac{1}{2}$	$\frac{5}{8}$	.....	$\frac{3}{4}$
$1\frac{15}{16}$	24	$19\frac{3}{4}$	$23\frac{3}{4}$	8	6	$\frac{5}{8}$	.....	$\frac{3}{4}$
$2\frac{3}{16}$	10	$14\frac{1}{4}$	$17\frac{1}{2}$	9	$4\frac{3}{4}$	$\frac{3}{4}$	.....	$\frac{3}{4}$
$2\frac{3}{16}$	12	$14\frac{3}{4}$	$18\frac{3}{4}$	9	5	$\frac{3}{4}$	.....	$\frac{3}{4}$
$2\frac{3}{16}$	15	16	$20\frac{1}{2}$	9	$5\frac{1}{2}$	$\frac{3}{4}$	.....	$\frac{3}{4}$
$2\frac{3}{16}$	18	$16\frac{7}{8}$	$20\frac{1}{2}$	9	$5\frac{5}{8}$	$\frac{3}{4}$	.....	$\frac{3}{4}$
$2\frac{3}{16}$	21	$18\frac{3}{4}$	$22\frac{1}{4}$	9	$5\frac{3}{4}$	$\frac{3}{4}$	.....	$\frac{3}{4}$
$2\frac{3}{16}$	24	20	$23\frac{1}{2}$	9	6	$\frac{3}{4}$	.....	$\frac{3}{4}$
$2\frac{3}{16}$	30	$20\frac{1}{4}$	$23\frac{3}{4}$	9	6	$\frac{3}{4}$	$3\frac{1}{4}$	$\frac{3}{4}$

Dimensions of Ball and Socket Drop Hangers Open Side Pattern—Continued

Wick-Oiling and Ring-Oiling

Diam. of Shaft, Inches	DIMENSIONS, INCHES							
	A	B	C	D	E	F	G	H
$2\frac{7}{16}$	10	$14\frac{1}{4}$	18	10	$5\frac{3}{4}$	$\frac{3}{4}$	....	$\frac{3}{4}$
$2\frac{7}{16}$	12	$14\frac{1}{2}$	$18\frac{1}{2}$	10	$5\frac{3}{4}$	$\frac{3}{4}$	....	$\frac{3}{4}$
$2\frac{7}{16}$	15	15	$19\frac{1}{2}$	10	$5\frac{1}{2}$	$\frac{3}{4}$	....	$\frac{3}{4}$
$2\frac{7}{16}$	18	18	$21\frac{1}{2}$	10	$5\frac{1}{2}$	$\frac{3}{4}$	....	$\frac{3}{4}$
$2\frac{7}{16}$	21	19	$22\frac{1}{2}$	10	6	$\frac{3}{4}$	....	$\frac{3}{4}$
$2\frac{7}{16}$	24	$20\frac{1}{4}$	$23\frac{3}{4}$	10	6	$\frac{3}{4}$	....	$\frac{3}{4}$
$2\frac{7}{16}$	30	$20\frac{1}{4}$	$23\frac{3}{4}$	10	6	$\frac{3}{4}$	$3\frac{1}{4}$	$\frac{3}{4}$
$2\frac{7}{16}$	36	28	$32\frac{3}{4}$	10	7	$\frac{3}{4}$	4	$1\frac{1}{8}$
$2\frac{11}{16}$ & $2\frac{15}{16}$	10	15	$19\frac{1}{4}$	12	6	$\frac{3}{4}$	$3\frac{1}{4}$	$\frac{3}{4}$
$2\frac{11}{16}$ & $2\frac{15}{16}$	12	15	$19\frac{1}{4}$	12	6	$\frac{3}{4}$	$3\frac{1}{4}$	$\frac{3}{4}$
$2\frac{11}{16}$ & $2\frac{15}{16}$	15	$16\frac{1}{4}$	$20\frac{3}{4}$	12	$6\frac{1}{4}$	$\frac{3}{4}$	$3\frac{1}{4}$	$\frac{3}{4}$
$2\frac{11}{16}$ & $2\frac{15}{16}$	18	17	$21\frac{1}{2}$	12	$6\frac{1}{4}$	$\frac{3}{4}$	$3\frac{1}{2}$	1
$2\frac{11}{16}$ & $2\frac{15}{16}$	21	$18\frac{3}{4}$	$23\frac{1}{2}$	12	$6\frac{1}{2}$	$\frac{3}{4}$	$3\frac{1}{2}$	1
$2\frac{11}{16}$ & $2\frac{15}{16}$	24	$18\frac{1}{2}$	24	12	$6\frac{3}{4}$	$\frac{3}{4}$	$3\frac{1}{2}$	1
$2\frac{11}{16}$ & $2\frac{15}{16}$	30	$24\frac{1}{2}$	$29\frac{3}{4}$	12	8	$\frac{3}{4}$	$3\frac{3}{4}$	$1\frac{1}{8}$
$2\frac{11}{16}$ & $2\frac{15}{16}$	36	28	33	12	$7\frac{1}{4}$	$\frac{3}{4}$	$3\frac{3}{4}$	$1\frac{1}{8}$
$3\frac{3}{16}$	12	$16\frac{1}{2}$	$20\frac{3}{4}$	13	7	$\frac{7}{8}$	$3\frac{5}{8}$	1
$3\frac{3}{16}$	15	$17\frac{1}{4}$	$21\frac{1}{2}$	13	$6\frac{1}{2}$	$\frac{7}{8}$	$3\frac{1}{2}$	1
$3\frac{3}{16}$	18	$18\frac{1}{4}$	$22\frac{3}{4}$	13	$6\frac{1}{2}$	$\frac{7}{8}$	$3\frac{1}{2}$	1
$3\frac{3}{16}$	21	$19\frac{1}{4}$	24	13	$7\frac{1}{4}$	$\frac{7}{8}$	4	1
$3\frac{3}{16}$	24	$21\frac{1}{2}$	$26\frac{3}{4}$	13	$8\frac{1}{2}$	$\frac{7}{8}$	4	$1\frac{1}{4}$
$3\frac{7}{16}$	12	$16\frac{1}{2}$	$20\frac{3}{4}$	14	7	$\frac{7}{8}$	$3\frac{5}{8}$	1
$3\frac{7}{16}$	15	$17\frac{1}{4}$	$21\frac{1}{2}$	14	$6\frac{1}{2}$	$\frac{7}{8}$	$3\frac{1}{2}$	1
$3\frac{7}{16}$	18	$18\frac{1}{4}$	$22\frac{3}{4}$	14	$6\frac{1}{2}$	$\frac{7}{8}$	$3\frac{1}{2}$	1
$3\frac{7}{16}$	21	$19\frac{1}{4}$	24	14	$7\frac{1}{4}$	$\frac{7}{8}$	4	1
$3\frac{7}{16}$	24	$21\frac{1}{2}$	$26\frac{3}{4}$	14	$8\frac{1}{2}$	$\frac{7}{8}$	4	$1\frac{1}{4}$
$3\frac{11}{16}$ & $3\frac{15}{16}$	15	$20\frac{1}{4}$	$25\frac{1}{2}$	14	8	$\frac{7}{8}$	$3\frac{3}{4}$	$1\frac{1}{4}$
$3\frac{11}{16}$ & $3\frac{15}{16}$	18	$20\frac{1}{4}$	$25\frac{1}{2}$	14	8	$\frac{7}{8}$	4	$1\frac{1}{4}$
$3\frac{11}{16}$ & $3\frac{15}{16}$	21	$20\frac{1}{4}$	$25\frac{1}{4}$	14	8	$\frac{7}{8}$	4	$1\frac{1}{4}$
$3\frac{11}{16}$ & $3\frac{15}{16}$	24	$20\frac{3}{4}$	26	14	9	$\frac{7}{8}$	$4\frac{3}{4}$	$1\frac{1}{4}$
$3\frac{11}{16}$ & $3\frac{15}{16}$	30	26	31	14	9	$\frac{7}{8}$	$4\frac{3}{4}$	$1\frac{1}{4}$
$3\frac{11}{16}$ & $3\frac{15}{16}$	36	$32\frac{1}{2}$	33	14	9	$\frac{7}{8}$	$4\frac{3}{4}$	$1\frac{1}{4}$
$4\frac{7}{16}$	15	$22\frac{1}{4}$	$28\frac{1}{2}$	18	9	1	5	$1\frac{1}{4}$
$4\frac{7}{16}$	18	$23\frac{1}{4}$	$29\frac{3}{4}$	18	$11\frac{3}{4}$	$1\frac{1}{8}$	$5\frac{3}{4}$	$1\frac{1}{4}$
$4\frac{7}{16}$	21	25	$31\frac{3}{4}$	18	$12\frac{1}{4}$	$1\frac{1}{8}$	$5\frac{3}{4}$	$1\frac{3}{8}$
$4\frac{7}{16}$	24	$25\frac{1}{2}$	33	18	13	$1\frac{1}{8}$	6	$1\frac{3}{8}$
$4\frac{7}{16}$	30	28	35	18	14	$1\frac{1}{8}$	6	$1\frac{1}{2}$
$4\frac{15}{16}$	18	$23\frac{1}{4}$	$29\frac{3}{4}$	20	$11\frac{3}{4}$	$1\frac{1}{8}$	$5\frac{3}{4}$	$1\frac{1}{4}$
$4\frac{15}{16}$	21	25	$31\frac{3}{4}$	20	$12\frac{1}{4}$	$1\frac{1}{8}$	$5\frac{3}{4}$	$1\frac{3}{8}$
$4\frac{15}{16}$	24	$25\frac{1}{2}$	33	20	13	$1\frac{1}{8}$	6	$1\frac{3}{8}$
$4\frac{15}{16}$	30	28	35	20	14	$1\frac{1}{8}$	6	$1\frac{1}{2}$

Ball and Socket Ring-Oiling Drop Hangers

Four-Way Pattern

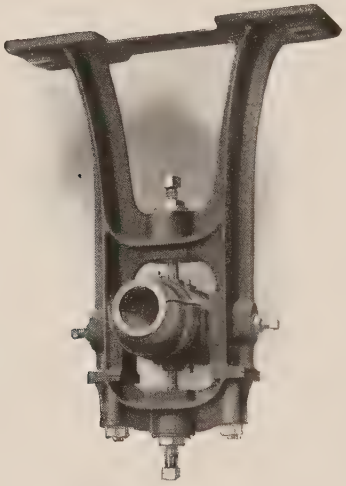


Fig. 45589. (*Abramis*)

The bearings are babbitted and bored, and the ends of the bearings are faced. Adjustable horizontally and vertically. The feet are finished.

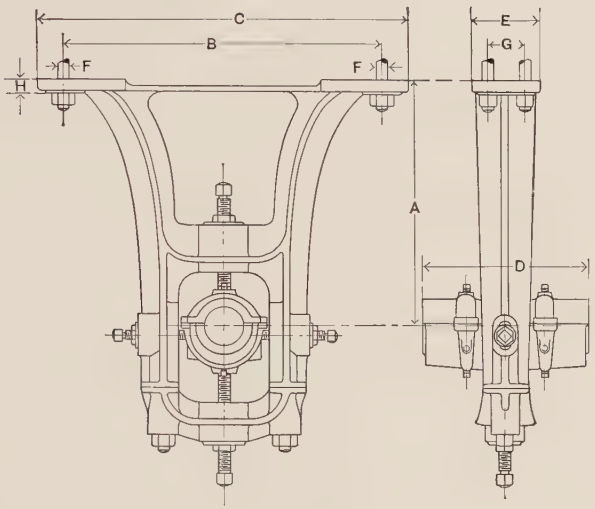
Price List, Subject to Discount

Diam. of Shaft, Inches	DROP IN INCHES										
	8	10	12	14	16	18	20	22	24	30	36
1 3/16	$ 6.70	$ 6.90	$ 7.10	$ 7.30	$ 7.50	.....	.....	.....	.....	.....	.....
1 7/16	8.00	8.20	8.40	8.60	8.80	$ 9.00	$ 9.50	.....	.....	.....	.....
1 11/16	8.40	8.65	8.85	9.15	9.45	9.75	10.25	$10.75	$11.25	.....	.....
1 15/16	10.65	10.90	11.30	11.70	12.10	12.50	13.10	13.70	14.30	$16.30	$18.30
2 3/16	.....	12.75	13.00	13.50	14.00	14.50	15.25	16.00	16.75	19.00	21.25
2 7/16	.....	14.25	14.50	15.00	15.50	16.00	16.75	17.50	18.25	20.50	22.75
2 11/16	.....	18.25	18.50	19.00	19.50	20.00	21.00	22.00	23.00	25.50	28.00
2 15/16	.....	20.25	20.75	21.50	22.25	23.00	24.25	25.50	26.75	29.75	32.75
3 3/16	.....	.....	27.25	28.00	29.00	30.00	31.50	33.00	34.50	38.00	41.50
3 7/16	.....	.....	31.25	32.00	33.00	34.00	35.50	37.00	38.50	42.00	45.50
3 11/16	.....	.....	34.50	35.50	36.75	38.00	39.75	41.50	43.25	47.25	51.25
3 15/16	.....	.....	38.50	39.50	40.75	42.00	43.75	45.50	47.25	51.25	55.25

The drop of the hanger is the vertical distance from the foot to the center of box.
Price of ball and socket inverted hanger or floor stand same as above.
For countershaft hanger add $1.00 net for shifter arm.
In telegraphing use code word on page 697 for shaft diameter and drop of hanger, and follow by code word under cut showing style of hanger.
For dimensions see pages 689 and 690.

Dimensions of Ball and Socket Ring-Oiling Drop Hangers

Four-Way Pattern



Diam. of Shaft, Inches	DIMENSIONS, INCHES							
	A	B	C	D	E	F	G	H
1 3/16	8	9 1/2	12	5	3	1/2	.....	5/8
1 3/16	10	10 1/2	13	5	3 1/8	1/2	.....	5/8
1 3/16	12	11 1/2	14	5	3 1/4	1/2	.....	5/8
1 3/16	14	12 3/8	14 7/8	5	3 3/8	1/2	.....	5/8
1 3/16	16	13 1/4	15 3/4	5	3 1/2	1/2	.....	5/8
1 7/16	8	11 1/4	13 3/4	6	3 1/8	1/2	.....	5/8
1 7/16	10	12 1/8	14 5/8	6	3 1/4	1/2	.....	5/8
1 7/16	12	13	15 1/2	6	3 3/8	1/2	.....	5/8
1 7/16	14	13 7/8	16 3/8	6	3 1/2	1/2	.....	5/8
1 7/16	16	14 3/4	17 1/4	6	3 5/8	1/2	.....	5/8
1 7/16	18	15 5/8	18 3/8	6	3 3/4	5/8	.....	3/4
1 7/16	20	16 1/2	19 1/2	6	3 7/8	5/8	.....	3/4
1 11/16	8	12 3/8	15 3/8	7	3 1/8	1/2	.....	5/8
1 11/16	10	13 1/4	16 1/4	7	3 1/4	1/2	.....	5/8
1 11/16	12	14 1/8	17 1/8	7	3 3/8	1/2	.....	5/8
1 11/16	14	15	18	7	3 1/2	1/2	.....	5/8
1 11/16	16	15 7/8	18 7/8	7	3 5/8	5/8	.....	3/4
1 11/16	18	16 3/4	19 3/4	7	3 3/4	5/8	.....	3/4
1 11/16	20	17 5/8	20 5/8	7	3 7/8	5/8	.....	3/4
1 11/16	22	18 1/2	21 1/2	7	4	5/8	.....	3/4
1 11/16	24	19 3/8	22 3/8	7	4 1/8	5/8	.....	3/4
1 15/16	8	13 3/4	16 1/2	8	3 1/8	5/8	.....	3/4
1 15/16	10	14 1/2	17 3/8	8	3 1/4	5/8	.....	3/4
1 15/16	12	15 1/4	18 1/4	8	3 3/8	5/8	.....	3/4
1 15/16	14	16	19 1/8	8	3 1/2	5/8	.....	3/4
1 15/16	16	16 3/4	20	8	3 5/8	5/8	.....	3/4
1 15/16	18	17 1/2	20 7/8	8	3 3/4	3/4	.....	7/8
1 15/16	20	18 1/4	21 3/4	8	3 7/8	3/4	.....	7/8
1 15/16	22	19	22 5/8	8	4	3/4	.....	7/8
1 15/16	24	19 3/4	23 1/2	8	4 1/8	3/4	.....	7/8
1 15/16	30	22	25 3/8	8	4 1/2	3/4	.....	7/8
1 15/16	36	24 1/4	28 1/4	8	4 7/8	7/8	.....	1

Dimensions of Ball and Socket Ring-Oiling Drop Hangers
Four-Way Pattern—Continued

Diam. of Shaft, Inches	DIMENSIONS, INCHES.							
	A	B	C	D	E	F	G	H
2 3/16	10	16 1/8	18 3/8	9	3 1/2	5/8	....	3/4
2 3/16	12	16 3/4	19 1/4	9	3 5/8	5/8	....	3/4
2 3/16	14	17 3/8	20 1/8	9	3 3/4	5/8	....	3/4
2 3/16	16	18	21	9	3 7/8	3/4	....	7/8
2 3/16	18	18 5/8	21 7/8	9	4	3/4	....	7/8
2 3/16	20	19 1/4	22 3/4	9	4 1/8	3/4	....	7/8
2 3/16	22	20	23 5/8	9	4 1/4	3/4	....	1
2 3/16	24	20 3/4	24 1/2	9	4 3/8	7/8	....	1
2 3/16	30	23 1/4	27	9	4 3/4	7/8	....	1
2 3/16	36	25 3/4	29 1/2	9	5	7/8	....	1
2 7/16	10	17	20 3/8	10	3 3/4	5/8	....	3/4
2 7/16	12	17 3/4	21 1/4	10	3 7/8	5/8	....	3/4
2 7/16	14	18 1/2	22 1/8	10	4	3/4	....	7/8
2 7/16	16	19 3/8	23	10	4 1/8	3/4	....	7/8
2 7/16	18	20 1/4	23 7/8	10	4 1/4	3/4	....	7/8
2 7/16	20	21 1/8	24 3/4	10	4 3/8	3/4	....	7/8
2 7/16	22	22	25 5/8	10	4 1/2	7/8	....	1
2 7/16	24	22 7/8	26 1/2	10	4 5/8	7/8	....	1
2 7/16	30	25 3/8	29 1/8	10	4 7/8	7/8	....	1
2 7/16	36	27 7/8	31 3/4	10	5 1/4	7/8	....	1
2 11/16	10	18 3/4	21 3/4	11	4	3/4	....	7/8
2 11/16	12	19 1/2	22 5/8	11	4 1/8	3/4	....	7/8
2 11/16	14	20 1/4	23 1/2	11	4 1/4	3/4	....	7/8
2 11/16	16	21	24 3/8	11	4 3/8	3/4	....	7/8
2 11/16	18	21 3/4	25 1/4	11	4 1/2	3/4	....	7/8
2 11/16	20	22 1/2	26 1/8	11	4 5/8	7/8	....	1
2 11/16	22	23 1/4	27	11	4 3/4	7/8	....	1
2 11/16	24	24	27 7/8	11	5	7/8	....	1
2 11/16	30	26 5/8	30 1/2	11	5 3/8	7/8	3	1
2 11/16	36	29 3/8	33 1/4	11	5 3/4	7/8	3 1/4	1
2 15/16	12	21 1/4	24 3/8	12	4 3/8	3/4	....	7/8
2 15/16	14	22	25 1/4	12	4 1/2	3/4	....	7/8
2 15/16	16	22 3/4	26 1/8	12	4 5/8	3/4	....	7/8
2 15/16	18	23 1/2	27	12	4 3/4	7/8	....	1
2 15/16	20	24 3/8	28	12	5	7/8	....	1
2 15/16	22	25 1/4	29	12	5 1/4	7/8	2 1/2	1
2 15/16	24	26 1/8	30	12	5 1/2	7/8	2 5/8	1
2 15/16	30	28 3/8	32 3/4	12	5 7/8	7/8	2 7/8	1
2 15/16	36	31	35 1/2	12	6 1/8	7/8	3 1/8	1
3 3/16	12	22	25 3/4		4 5/8	7/8	....	1
3 3/16 & 3 7/16	14	23 1/2	27 7/8	For 3 3/16" D = 13" For 3 7/16" D = 14"	5	7/8	2 3/8	1
3 3/16 & 3 7/16	16	24 3/8	28 3/4		5 1/8	7/8	2 1/2	1
3 3/16 & 3 7/16	18	25 1/4	29 5/8		5 3/8	7/8	2 5/8	1
3 3/16 & 3 7/16	20	26 1/8	30 1/2		5 5/8	7/8	2 3/4	1
3 3/16 & 3 7/16	22	27	31 1/2		5 7/8	7/8	3	1
3 3/16 & 3 7/16	24	28	32 1/2		6 1/4	7/8	3 3/8	1
3 3/16 & 3 7/16	30	30 1/2	35		6 5/8	7/8	3 3/4	1
3 3/16 & 3 7/16	36	33 1/4	37 3/4		7	7/8	4 1/8	1
3 11/16 & 3 15/16	14	26 1/2	31 1/4	For 3 11/16" D = 15" For 3 15/16" D = 16"	5 3/4	7/8	2 5/8	1
3 11/16 & 3 15/16	16	27 1/4	32 1/8		6	7/8	2 7/8	1
3 11/16 & 3 15/16	18	28	33		6 1/4	7/8	3 1/8	1
3 11/16 & 3 15/16	20	28 3/4	33 7/8		6 1/2	7/8	3 3/8	1
3 11/16 & 3 15/16	22	29 5/8	34 7/8		6 3/4	1	3 5/8	1 1/8
3 11/16 & 3 15/16	24	30 1/2	35 7/8		7	1	4	1 1/8
3 11/16 & 3 15/16	30	32 3/4	38 1/2		7 3/8	1	4 3/8	1 1/8
3 11/16 & 3 15/16	36	35 1/4	41 1/4		7 3/4	1	4 5/8	1 1/8

Special Heavy Ball and Socket Drop Hangers

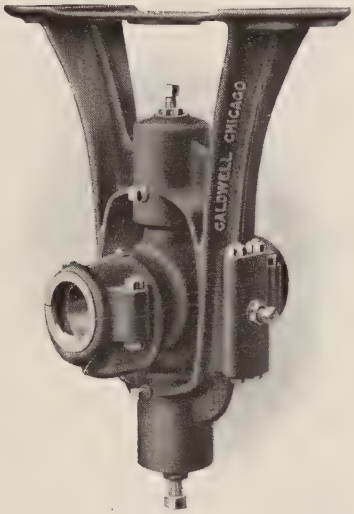


Fig. 45590. (*Casque*)

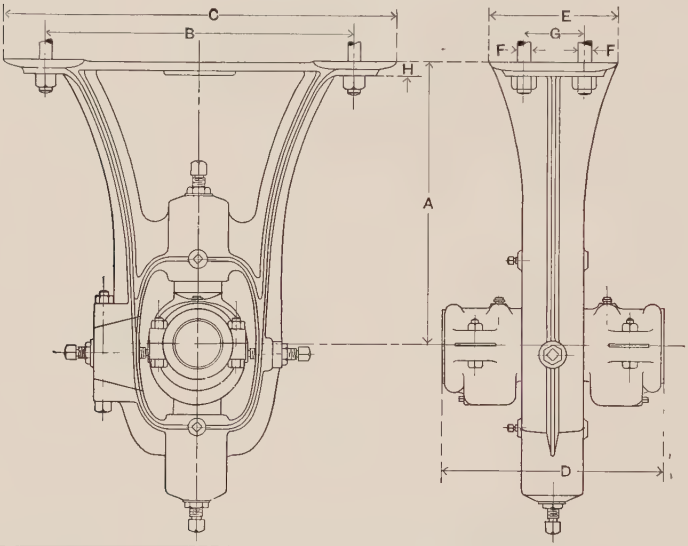
The special heavy drop hangers are designed for service where the ordinary hanger would not be strong enough. They are adjustable in all directions. The bearings are made either ring-oiling or chain-oiling, and if desired with concealed collars, for which extra charge is made.

Price List, Subject to Discount

Diam. of Shaft, Inches	DROP IN INCHES									
	6	8	10	12	15	18	21	24	30	36
$\frac{15}{16}$	$12.00	$12.50	$13.00	$13.50	.....	.....	.....	.....	.....	.....
$1\frac{3}{16}$	.....	15.00	15.50	16.00	.....	.....	.....	.....	.....	.....
$1\frac{7}{16}$	.....	16.50	17.00	17.50	$18.50	$19.50	$20.50	.....	.....	.....
$1\frac{11}{16}$	.....	19.00	19.50	20.00	20.75	21.75	23.00	.....	.....	.....
$1\frac{15}{16}$	.....	23.00	23.50	24.00	24.75	25.50	26.25	$27.25	$30.25	.....
$2\frac{3}{16}$	.....	27.00	27.50	28.00	28.75	29.50	30.50	31.75	34.00	.....
$2\frac{7}{16}$	.....	.....	33.00	33.50	34.25	35.25	36.00	37.25	39.25	$42.25
$2\frac{11}{16}$	.....	.....	.....	40.00	41.00	42.25	43.75	45.75	48.75	53.25
$2\frac{15}{16}$	.....	.....	.....	45.00	46.25	47.75	49.50	51.25	52.25	56.75
$3\frac{3}{16}$	.....	.....	.....	51.00	52.50	54.00	56.50	59.00	63.00	69.00
$3\frac{7}{16}$	.....	.....	.....	56.00	57.50	59.00	61.50	64.00	68.00	74.00
$3\frac{11}{16}$	.....	.....	.....	.....	68.00	69.75	72.75	75.75	80.75	88.25
$3\frac{15}{16}$	.....	.....	.....	.....	75.00	77.00	80.00	83.00	88.00	95.50
$4\frac{3}{16}$	.....	.....	.....	.....	84.00	86.50	90.00	93.50	99.50	108.50
$4\frac{7}{16}$	.....	.....	.....	.....	93.00	95.50	99.00	102.50	108.50	117.50
$4\frac{11}{16}$	.....	.....	.....	.....	.....	110.00	113.50	117.00	123.00	132.00
$4\frac{15}{16}$	.....	.....	.....	.....	.....	120.00	123.50	127.00	135.00	142.00

The drop of the hanger is the vertical distance from the foot to the center of box.
Price of ball and socket inverted hanger or floor stand same as above.
For countershaft hanger add $1.00 net for shifter arm.
In telegraphing use code word on page 697 for shaft diameter and drop of hanger, and follow by code word under cut showing style of hanger.
For dimensions see pages 692 and 693.

Dimensions of Special Heavy Pattern Ball and Socket Drop Hangers



Diam. of Shaft, Inches	DIMENSIONS, INCHES							
	A	B	C	D	E	F	G	H
15/16	6	8	11 1/4	4 3/4	5 1/4	1/2	....	3/4
15/16	8	9	12 1/4	4 3/4	5 1/4	1/2	....	3/4
15/16	10	10	13 3/8	4 3/4	5 1/2	1/2	....	3/4
15/16	12	11 1/2	15	4 3/4	5 3/4	1/2	....	3/4
1 3/16	6	8	11 1/4	6	5 1/4	1/2	....	3/4
1 3/16	8	9	12 1/4	6	5 1/4	1/2	....	3/4
1 3/16	10	10	13 3/8	6	5 1/2	1/2	....	3/4
1 3/16	12	11 1/2	15	6	5 3/4	1/2	....	3/4
1 7/16	8	10 1/2	14 1/2	7 1/4	5 7/8	5/8	....	13/16
1 7/16	10	11 5/8	15 5/8	7 1/4	6	5/8	....	13/16
1 7/16	12	13 3/8	17 1/4	7 1/4	6 3/8	5/8	....	13/16
1 7/16	15	15	18 3/4	7 1/4	6 7/8	5/8	....	13/16
1 7/16	18	15	18 3/4	7 1/4	6 7/8	5/8	....	13/16
1 7/16	21	17 1/4	20 7/8	7 1/4	7 1/2	5/8	....	13/16
1 11/16	8	10 1/2	14 1/2	8 1/2	5 7/8	5/8	....	13/16
1 11/16	10	11 5/8	15 5/8	8 1/2	6	5/8	....	13/16
1 11/16	12	13 3/8	17 1/4	8 1/2	6 3/8	5/8	....	13/16
1 11/16	15	15	18 3/4	8 1/2	6 7/8	5/8	....	13/16
1 11/16	18	15	18 3/4	8 1/2	6 7/8	5/8	....	13/16
1 11/16	21	17 1/4	20 7/8	8 1/2	7 1/2	5/8	....	13/16
1 15/16 & 2 3/16	8	12 1/4	16 3/4	For 1 15/16" D = 9 3/4"	6 3/8	3/4	....	1
1 15/16 & 2 3/16	10	13	17 1/4		6 5/8	3/4	....	1
1 15/16 & 2 3/16	12	14 7/8	19 1/4		6 7/8	3/4	....	1
1 15/16 & 2 3/16	15	16 3/8	20 3/4		7 1/8	3/4	....	1
1 15/16 & 2 3/16	18	16 5/8	21		7 1/8	3/4	....	1
1 15/16 & 2 3/16	21	18 5/8	22 7/8	For 2 3/16" D = 11"	7 3/4	3/4	....	1
1 15/16 & 2 3/16	24	21 5/8	25 5/8		8	3/4	....	1
1 15/16 & 2 3/16	30	24 1/2	28 1/2		9 1/4	3/4	5	1

Dimensions of Special Heavy Pattern Ball and Socket Drop Hangers—Continued

Diam. of Shaft, Inches	DIMENSIONS, INCHES							
	A	B	C	D	E	F	G	H
$2\frac{7}{16}$	8	$13\frac{1}{4}$	18	$12\frac{1}{4}$	$5\frac{1}{4}$	$\frac{7}{8}$	....	1
$2\frac{7}{16}$	10	14	$19\frac{1}{4}$	$12\frac{1}{4}$	$5\frac{1}{4}$	$\frac{7}{8}$	....	1
$2\frac{7}{16}$	12	$15\frac{7}{8}$	21	$12\frac{1}{4}$	$7\frac{3}{8}$	$\frac{7}{8}$	....	1
$2\frac{7}{16}$	15	$17\frac{1}{2}$	$22\frac{1}{2}$	$12\frac{1}{4}$	$7\frac{3}{4}$	$\frac{7}{8}$	....	1
$2\frac{7}{16}$	18	$17\frac{3}{4}$	$22\frac{3}{4}$	$12\frac{1}{4}$	$7\frac{3}{4}$	$\frac{7}{8}$	....	1
$2\frac{7}{16}$	21	$19\frac{7}{8}$	$24\frac{3}{4}$	$12\frac{1}{4}$	$8\frac{1}{4}$	$\frac{7}{8}$	....	1
$2\frac{7}{16}$	24	$22\frac{3}{4}$	$27\frac{1}{2}$	$12\frac{1}{4}$	$9\frac{1}{4}$	$\frac{7}{8}$	....	1
$2\frac{7}{16}$	30	$25\frac{3}{4}$	$30\frac{3}{8}$	$12\frac{1}{4}$	$10\frac{3}{8}$	$\frac{7}{8}$	$5\frac{1}{4}$	1
$2\frac{7}{16}$	36	$29\frac{1}{4}$	$33\frac{3}{4}$	$12\frac{1}{4}$	$10\frac{7}{8}$	$\frac{7}{8}$	$5\frac{3}{4}$	1
$2\frac{11}{16}$	10	$15\frac{1}{2}$	$21\frac{1}{2}$	$13\frac{1}{2}$	$7\frac{1}{2}$	$\frac{7}{8}$	....	$1\frac{1}{8}$
$2\frac{11}{16}$	12	$17\frac{7}{8}$	$23\frac{5}{8}$	$13\frac{1}{2}$	$7\frac{3}{4}$	$\frac{7}{8}$	....	$1\frac{1}{8}$
$2\frac{11}{16}$	15	$19\frac{3}{8}$	$25\frac{1}{8}$	$13\frac{1}{2}$	$8\frac{1}{4}$	$\frac{7}{8}$	....	$1\frac{1}{8}$
$2\frac{11}{16}$	18	$19\frac{3}{8}$	$24\frac{7}{8}$	$13\frac{1}{2}$	$8\frac{1}{4}$	$\frac{7}{8}$	....	$1\frac{1}{8}$
$2\frac{11}{16}$	21	$21\frac{3}{4}$	$27\frac{1}{4}$	$13\frac{1}{2}$	$8\frac{3}{4}$	$\frac{7}{8}$	....	$1\frac{1}{8}$
$2\frac{11}{16}$	24	$24\frac{5}{8}$	$30\frac{1}{8}$	$13\frac{1}{2}$	$9\frac{1}{2}$	$\frac{7}{8}$	$5\frac{1}{8}$	$1\frac{1}{8}$
$2\frac{11}{16}$	30	$27\frac{1}{2}$	$32\frac{3}{4}$	$13\frac{1}{2}$	$10\frac{3}{8}$	$\frac{7}{8}$	$5\frac{1}{2}$	$1\frac{1}{8}$
$2\frac{11}{16}$	36	31	$36\frac{1}{8}$	$13\frac{1}{2}$	$11\frac{1}{8}$	$\frac{7}{8}$	6	$1\frac{1}{8}$
$2\frac{15}{16}$	10	$15\frac{1}{2}$	$21\frac{1}{2}$	$14\frac{3}{4}$	$7\frac{1}{2}$	$\frac{7}{8}$	....	$1\frac{1}{8}$
$2\frac{15}{16}$	12	$17\frac{7}{8}$	$23\frac{5}{8}$	$14\frac{3}{4}$	$7\frac{3}{4}$	$\frac{7}{8}$	....	$1\frac{1}{8}$
$2\frac{15}{16}$	15	$19\frac{3}{8}$	$25\frac{1}{8}$	$14\frac{3}{4}$	$8\frac{1}{4}$	$\frac{7}{8}$	....	$1\frac{1}{8}$
$2\frac{15}{16}$	18	$19\frac{3}{8}$	$24\frac{7}{8}$	$14\frac{3}{4}$	$8\frac{1}{4}$	$\frac{7}{8}$	....	$1\frac{1}{8}$
$2\frac{15}{16}$	21	$21\frac{3}{4}$	$27\frac{1}{4}$	$14\frac{3}{4}$	$8\frac{3}{4}$	$\frac{7}{8}$	....	$1\frac{1}{8}$
$2\frac{15}{16}$	24	$24\frac{5}{8}$	$30\frac{1}{8}$	$14\frac{3}{4}$	$9\frac{1}{2}$	$\frac{7}{8}$	$5\frac{1}{8}$	$1\frac{1}{8}$
$2\frac{15}{16}$	30	$27\frac{1}{2}$	$32\frac{3}{4}$	$14\frac{3}{4}$	$10\frac{3}{8}$	$\frac{7}{8}$	$5\frac{1}{2}$	$1\frac{1}{8}$
$2\frac{15}{16}$	36	31	$36\frac{1}{8}$	$14\frac{3}{4}$	$11\frac{1}{8}$	$\frac{7}{8}$	6	$1\frac{1}{8}$
$3\frac{3}{16}$ & $3\frac{7}{16}$	15	$20\frac{3}{4}$	27	For $3\frac{3}{16}$" D = 16" For $3\frac{7}{16}$" D = $16\frac{1}{4}$"	$8\frac{3}{8}$	1	....	$1\frac{1}{8}$
$3\frac{3}{16}$ & $3\frac{7}{16}$	18	23	$29\frac{1}{8}$		$9\frac{1}{2}$	1	$4\frac{1}{2}$	$1\frac{1}{8}$
$3\frac{3}{16}$ & $3\frac{7}{16}$	21	23	$29\frac{1}{8}$		$9\frac{1}{2}$	1	$4\frac{1}{2}$	$1\frac{1}{8}$
$3\frac{3}{16}$ & $3\frac{7}{16}$	24	26	32		$9\frac{7}{8}$	1	$4\frac{3}{4}$	$1\frac{1}{8}$
$3\frac{3}{16}$ & $3\frac{7}{16}$	30	$28\frac{7}{8}$	$34\frac{1}{2}$		$10\frac{3}{4}$	1	$5\frac{3}{8}$	$1\frac{1}{8}$
$3\frac{3}{16}$ & $3\frac{7}{16}$	36	$32\frac{3}{8}$	$37\frac{7}{8}$		$11\frac{5}{8}$	1	6	$1\frac{1}{8}$
$3\frac{11}{16}$ & $3\frac{15}{16}$	15	$22\frac{7}{8}$	$29\frac{7}{8}$	$19\frac{3}{4}$	$8\frac{7}{8}$	1	$5\frac{1}{8}$	$1\frac{1}{4}$
$3\frac{11}{16}$ & $3\frac{15}{16}$	18	$23\frac{3}{8}$	$30\frac{3}{8}$	$19\frac{3}{4}$	$8\frac{7}{8}$	1	$5\frac{1}{8}$	$1\frac{1}{4}$
$3\frac{11}{16}$ & $3\frac{15}{16}$	21	$25\frac{1}{8}$	32	$19\frac{3}{4}$	$9\frac{5}{8}$	1	$5\frac{3}{8}$	$1\frac{1}{4}$
$3\frac{11}{16}$ & $3\frac{15}{16}$	24	$28\frac{1}{8}$	$34\frac{7}{8}$	$19\frac{3}{4}$	$10\frac{1}{8}$	1	$5\frac{3}{4}$	$1\frac{1}{4}$
$3\frac{11}{16}$ & $3\frac{15}{16}$	30	31	$37\frac{5}{8}$	$19\frac{3}{4}$	$10\frac{7}{8}$	1	$6\frac{1}{8}$	$1\frac{1}{4}$
$3\frac{11}{16}$ & $3\frac{15}{16}$	36	$34\frac{1}{2}$	$41\frac{1}{4}$	$19\frac{3}{4}$	$11\frac{7}{8}$	1	$6\frac{1}{2}$	$1\frac{1}{4}$
$4\frac{3}{16}$ & $4\frac{7}{16}$	15	$22\frac{1}{2}$	$29\frac{3}{4}$	$22\frac{1}{4}$	$9\frac{1}{4}$	$1\frac{1}{8}$	$5\frac{1}{8}$	$1\frac{1}{4}$
$4\frac{3}{16}$ & $4\frac{7}{16}$	18	$24\frac{1}{4}$	$31\frac{1}{2}$	$22\frac{1}{4}$	$9\frac{3}{8}$	$1\frac{1}{8}$	$5\frac{1}{4}$	$1\frac{1}{4}$
$4\frac{3}{16}$ & $4\frac{7}{16}$	21	26	$33\frac{1}{4}$	$22\frac{1}{4}$	$9\frac{3}{8}$	$1\frac{1}{8}$	$5\frac{1}{4}$	$1\frac{1}{4}$
$4\frac{3}{16}$ & $4\frac{7}{16}$	24	28	$35\frac{1}{8}$	$22\frac{1}{4}$	$10\frac{1}{8}$	$1\frac{1}{8}$	$5\frac{3}{4}$	$1\frac{1}{4}$
$4\frac{3}{16}$ & $4\frac{7}{16}$	30	$31\frac{1}{2}$	$38\frac{1}{2}$	$22\frac{1}{4}$	$10\frac{7}{8}$	$1\frac{1}{8}$	$6\frac{1}{8}$	$1\frac{1}{4}$
$4\frac{3}{16}$ & $4\frac{7}{16}$	36	$35\frac{1}{4}$	42	$22\frac{1}{4}$	$11\frac{7}{8}$	$1\frac{1}{8}$	$6\frac{1}{2}$	$1\frac{1}{4}$
$4\frac{11}{16}$ & $4\frac{15}{16}$	18	$25\frac{1}{8}$	$33\frac{1}{8}$	$24\frac{3}{4}$	$9\frac{3}{4}$	$1\frac{1}{8}$	$5\frac{1}{2}$	$1\frac{3}{8}$
$4\frac{11}{16}$ & $4\frac{15}{16}$	21	$28\frac{3}{8}$	$36\frac{5}{8}$	$24\frac{3}{4}$	$10\frac{1}{4}$	$1\frac{1}{8}$	$5\frac{3}{4}$	$1\frac{3}{8}$
$4\frac{11}{16}$ & $4\frac{15}{16}$	24	$31\frac{1}{4}$	$39\frac{3}{8}$	$24\frac{3}{4}$	$10\frac{3}{4}$	$1\frac{1}{8}$	$6\frac{1}{8}$	$1\frac{3}{8}$
$4\frac{11}{16}$ & $4\frac{15}{16}$	30	$34\frac{5}{8}$	$42\frac{5}{8}$	$24\frac{3}{4}$	$11\frac{5}{8}$	$1\frac{1}{8}$	$6\frac{3}{8}$	$1\frac{3}{8}$
$4\frac{11}{16}$ & $4\frac{15}{16}$	36	38	$45\frac{3}{4}$	$24\frac{3}{4}$	$12\frac{1}{2}$	$1\frac{1}{8}$	$6\frac{3}{4}$	$1\frac{3}{8}$

Ball and Socket Drop Hangers

Collar-Oiling

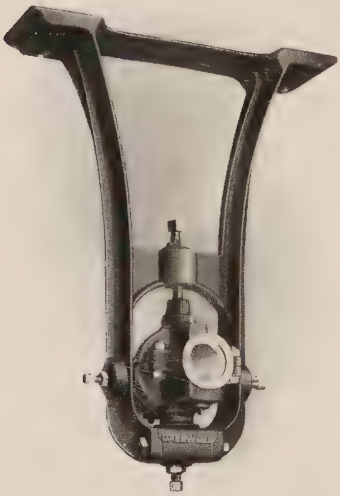


Fig. 45591. (*Lavascetis*)

These hangers are adjustable in all directions. The bearings are babbitted and bored, and the ends of the bearings are faced. The patterns are heavy and substantial and suitable for the heaviest service.

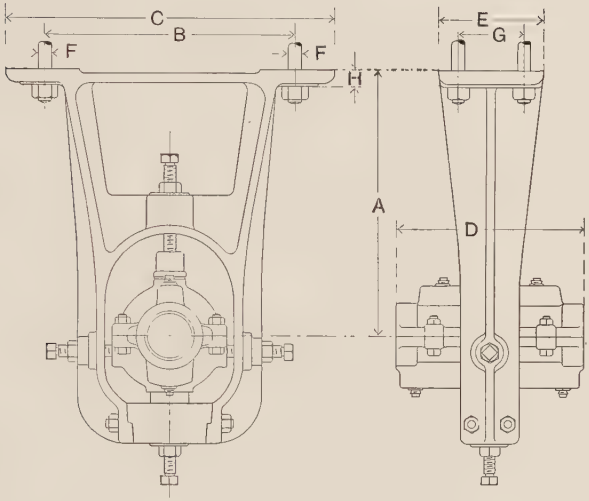
Price List, Subject to Discount

Diam. of Shaft, Inches	DROP, INCHES									
	10	12	14	16	18	20	22	25	30	36
$1\frac{15}{16}$	$13.75	$14.00	$14.40	$14.80	$15.40	$16.00	$16.80	$18.00	$19.50	$21.50
$2\frac{3}{16}$	16.00	16.80	17.40	18.00	19.50	20.80	22.00	23.50	24.80	27.00
$2\frac{7}{16}$	18.00	19.40	20.80	22.00	23.40	24.80	26.00	27.40	28.80	32.80
$2\frac{11}{16}$	22.50	24.00	25.00	26.50	28.00	29.00	30.50	32.50	35.00	40.50
$2\frac{15}{16}$	.....	28.00	29.50	31.00	32.00	33.50	35.00	37.50	41.50	48.00
$3\frac{3}{16}$	.....	35.00	37.00	38.50	40.00	42.00	43.50	46.00	51.00	57.50
$3\frac{7}{16}$	.....	42.00	44.00	46.00	48.00	50.00	52.00	55.00	60.00	67.00
$3\frac{11}{16}$	.....	48.00	49.00	51.00	53.00	55.00	57.50	60.00	65.00	71.50
$3\frac{15}{16}$	.....	.....	53.50	55.50	57.50	60.00	63.00	65.50	69.50	76.00
$4\frac{7}{16}$	.....	.....	65.50	68.00	71.00	73.50	76.00	80.00	85.50	93.50
$4\frac{15}{16}$	.....	.....	.....	83.00	85.50	88.00	91.00	97.50	107.00	120.00
$5\frac{7}{16}$	.....	.....	.....	99.00	101.50	104.00	107.00	113.50	123.00	140.00
$5\frac{15}{16}$	.....	.....	.....	.....	.....	120.00	134.00	147.00	160.00	174.00

The drop of the hanger is the vertical distance from the foot to the center of box.
Price of ball and socket inverted hanger or floor stand same as above.
For countershaft hanger add $1.00 net for shifter arm.
In telegraphing use code word on page 697 for shaft diameter and drop of hanger, and follow by code word under cut showing style of hanger.
For dimensions see pages 695 and 696.

Dimensions of Ball and Socket Drop Hangers

Collar-Oiling



Diam. of Shaft, Inches	DIMENSIONS, INCHES							
	A	B	C	D	E	F	G	H
$1\frac{15}{16}$ & $2\frac{3}{16}$	10	12½	17	8½	5½	¾	3	⅞
$1\frac{15}{16}$ & $2\frac{3}{16}$	12	13	17½	8½	5¾	¾	3	⅞
$1\frac{15}{16}$ & $2\frac{3}{16}$	14	13½	18	8½	5¾	¾	3¼	⅞
$1\frac{15}{16}$ & $2\frac{3}{16}$	16	14	18½	8½	5¾	¾	3¼	⅞
$1\frac{15}{16}$ & $2\frac{3}{16}$	18	15	19½	8½	6	¾	3½	⅞
$1\frac{15}{16}$ & $2\frac{3}{16}$	20	17	21½	8½	6¼	¾	3¾	⅞
$1\frac{15}{16}$ & $2\frac{3}{16}$	22	18	22½	8½	6½	¾	4	⅞
$1\frac{15}{16}$ & $2\frac{3}{16}$	25	20	24½	8½	6½	¾	4	⅞
$1\frac{15}{16}$ & $2\frac{3}{16}$	30	23	27½	8½	6¾	¾	4¼	⅞
$1\frac{15}{16}$ & $2\frac{3}{16}$	36	26	30½	8½	7	¾	4½	⅞
$2\frac{7}{16}$ & $2\frac{11}{16}$	10	12½	17	10	5½	¾	3	⅞
$2\frac{7}{16}$ & $2\frac{11}{16}$	12	13	17½	10	5¾	¾	3	⅞
$2\frac{7}{16}$ & $2\frac{11}{16}$	14	13½	18	10	5¾	¾	3¼	⅞
$2\frac{7}{16}$ & $2\frac{11}{16}$	16	14	18½	10	5¾	¾	3¼	⅞
$2\frac{7}{16}$ & $2\frac{11}{16}$	18	15	19½	10	6	¾	3½	⅞
$2\frac{7}{16}$ & $2\frac{11}{16}$	20	17	21½	10	6¼	¾	3¾	⅞
$2\frac{7}{16}$ & $2\frac{11}{16}$	22	18	22½	10	6½	¾	4	⅞
$2\frac{7}{16}$ & $2\frac{11}{16}$	25	20	24½	10	6½	¾	4	⅞
$2\frac{7}{16}$ & $2\frac{11}{16}$	30	23	27½	10	6¾	¾	4¼	⅞
$2\frac{7}{16}$ & $2\frac{11}{16}$	36	26	30½	10	7	¾	4½	⅞
$2\frac{15}{16}$ & $3\frac{3}{16}$	12	15	20	12	6½	⅞	4	1
$2\frac{15}{16}$ & $3\frac{3}{16}$	14	15½	20½	12	6½	⅞	4	1
$2\frac{15}{16}$ & $3\frac{3}{16}$	16	16	21	12	6¾	⅞	4¼	1
$2\frac{15}{16}$ & $3\frac{3}{16}$	18	17	22	12	7	⅞	4½	1
$2\frac{15}{16}$ & $3\frac{3}{16}$	20	19	24	12	7½	⅞	4¾	1
$2\frac{15}{16}$ & $3\frac{3}{16}$	22	21	26	12	7½	⅞	4¾	1
$2\frac{15}{16}$ & $3\frac{3}{16}$	25	22	27	12	8	⅞	5	1
$2\frac{15}{16}$ & $3\frac{3}{16}$	30	25½	30½	12	8¼	⅞	5¼	1
$2\frac{15}{16}$ & $3\frac{3}{16}$	36	28	33	12	8½	⅞	5½	1

Dimensions of Ball and Socket Collar-Oiling Drop Hangers —Continued

Diam. of Shaft, Inches	DIMENSIONS, INCHES							
	A	B	C	D	E	F	G	H
3 7/16 & 3 11/16	12	15	20	14	6 1/2	7/8	4	1
3 7/16 & 3 11/16	14	15 1/2	20 1/2	14	6 1/2	7/8	4	1
3 7/16 & 3 11/16	16	16	21	14	6 3/4	7/8	4 1/4	1
3 7/16 & 3 11/16	18	17	22	14	7	7/8	4 1/2	1
3 7/16 & 3 11/16	20	19	24	14	7 1/2	7/8	4 3/4	1
3 7/16 & 3 11/16	22	21	26	14	7 1/2	7/8	4 3/4	1
3 7/16 & 3 11/16	25	22	27	14	8	7/8	5	1
3 7/16 & 3 11/16	30	25 1/2	30 1/2	14	8 1/4	7/8	5 1/4	1
3 7/16 & 3 11/16	36	28	33	14	8 1/2	7/8	5 1/2	1
3 15/16	14	19	25	16	8 1/2	1	5 3/4	1 1/8
3 15/16	16	19	25	16	8 1/2	1	5 3/4	1 1/8
3 15/16	18	21	27	16	8 3/4	1	6	1 1/8
3 15/16	20	23	29	16	9	1	6 1/4	1 1/8
3 15/16	22	25	31	16	9 1/4	1	6 1/4	1 1/8
3 15/16	25	27	33	16	9 1/2	1	6 1/2	1 1/8
3 15/16	30	31	37	16	10	1	7	1 1/8
3 15/16	36	36	42	16	10 1/2	1	7 1/2	1 1/8
4 7/16	14	19	25	18	8 1/2	1	5 3/4	1 1/8
4 7/16	16	19	25	18	8 1/2	1	5 3/4	1 1/8
4 7/16	18	21	27	18	8 3/4	1	6	1 1/8
4 7/16	20	23	29	18	9	1	6 1/4	1 1/8
4 7/16	22	25	31	18	9 1/4	1	6 1/4	1 1/8
4 7/16	25	27	33	18	9 1/2	1	6 1/2	1 1/8
4 7/16	30	31	37	18	10	1	7	1 1/8
4 7/16	36	36	42	18	10 1/2	1	7 1/2	1 1/8
4 15/16	16	25	32	20	10	1 1/8	6	1 1/4
4 15/16	18	25	32	20	10	1 1/8	6	1 1/4
4 15/16	20	27	34	20	10 1/4	1 1/8	6 1/4	1 1/4
4 15/16	22	29	36	20	10 1/4	1 1/8	6 1/4	1 1/4
4 15/16	25	30	37	20	10 1/2	1 1/8	6 1/2	1 1/4
4 15/16	30	33	40	20	10 3/4	1 1/8	6 3/4	1 1/4
4 15/16	36	36	43	20	11	1 1/8	7	1 1/4
5 7/16	16	25	32	21	10	1 1/8	6	1 1/4
5 7/16	18	25	32	21	10	1 1/8	6	1 1/4
5 7/16	20	27	34	21	10 1/4	1 1/8	6 1/4	1 1/4
5 7/16	22	29	36	21	10 1/4	1 1/8	6 1/4	1 1/4
5 7/16	25	30	37	21	10 1/2	1 1/8	6 1/2	1 1/4
5 7/16	30	33	40	21	10 3/4	1 1/8	6 3/4	1 1/4
5 7/16	36	36	43	21	11	1 1/8	7	1 1/4
5 15/16	20	30	38	22	11	1 1/4	7	1 3/4
5 15/16	22	32	40	22	11 1/4	1 1/4	7 1/4	1 3/4
5 15/16	25	33	41	22	11 1/2	1 1/4	7 1/2	1 3/4
5 15/16	30	36	44	22	12	1 1/4	8	1 3/4
5 15/16	36	39	47	22	12 1/2	1 1/4	8 1/2	1 3/4

Telegraph Code for Drop Hangers

Use the following code for the size of hanger and follow by code word under cut (see preceding pages) which shows the type of hanger wanted.

Diam. of Shaft, inches.	DROP, INCHES						
	6	8	10	12	14	15	16
15/16	Legraramos	Legulejum	Lehensbuch	Lehmklump	.....	.....	.....
1 3/16	.....	Legulorum	Lehenseid	Lehmmuehe	Lehnsatz	.....	Lehrkind
1 7/16	.....	Legulos	Lehenshand	Lehmmergel	Lehnsbruch	Lehrbuches	Lehrkinder
1 11/16	.....	Legulum	Lehensherr	Lehmsandes	Lehnserbe	Lehreifer	Lehrknabe
1 15/16	.....	Legumaio	Lehenshof	Lehmsohle	Lehnsessel	Lehrerin	Lehrkraft
2 3/16	.....	Legumbre	Lehensstab	Lehmwagen	Lehnsfall	Lehrest	Lehrkunst
2 7/16	.....	.....	Lehenszaxe	Lehmweg	Lehnsfolge	Lehrfach	Lehrling
2 11/16	.....	.....	Lehmacker	Lehmweges	Lehnstueck	Lehrfaches	Lehrlinges
2 15/16	.....	.....	Lehmartig	Lehmziegel	Lehntafel	Lehrfaehig	Lehrlohn
3 3/16	.....	.....	.....	Lehnbank	Lehnwesen	Lehrgang	Lehrlohnes
3 7/16	.....	.....	.....	Lehnbauer	Lehnzins	Lehrganges	Lehrmittel
3 11/16	.....	.....	.....	Lehndienst	Lehodey	Lehrgeld	Lehrplan
3 15/16	.....	.....	.....	Lehnfrau	Lehramt	Lehrgelder	Lehrplanes
4 3/16	.....	.....	.....	.....	Lehramtes	Lehrgierig	Lehrpunkt
4 7/16	.....	.....	.....	.....	Lehrbar	Lehrherr	Lehrreich
4 11/16	.....	.....	.....	.....	.....	.....	Lehrsaal
4 15/16	.....	.....	.....	.....	.....	.....	Lehrsaelen
5 7/16	.....	.....	.....	.....	.....	.....	Lehrsam

Diam. of shaft, inches	DROP, INCHES							
	18	20	21	22	24	25	30	36
1 7/16	Lehrspruch	Leibesring	Leibpelz	.....	.....	.....	.....	.....
1 11/16	Lehrstelle	Leibfarbe	Leibpelzes	Leichtfuss	Leidsales	.....	.....	.....
1 15/16	Lehrstoff	Leibfrohn	Leibrente	Leichtholz	Leidselig	Legrarian	Leikloover	Leimstoff
2 3/16	Lehrstunde	Leibfuchs	Leibrock	Leichtlich	Leidsman	Legsack	Leiknadel	Leimsuess
2 7/16	Lehrsystem	Leibgans	Leibrockes	Leichtmuth	Leidsvorm	Legsaege	Leikohr	Leimtopf
2 11/16	Lehrton	Leibgarde	Leibschirm	Leichtsinn	Leidvoll	Legsels	Leimahorn	Leimtopfes
2 15/16	Lehrtones	Leibgeding	Leibspeise	Leidbiter	Leidvoller	Legstoel	Leimanthe	Leimtrog
3 3/16	Lehrwidrig	Leibgeld	Leibstock	Leidekker	Leidwesen	Legstoelen	Leimbaum	Leimtroges
3 7/16	Lehrzeit	Leibgelder	Leibstrafe	Leidende	Leigaco	Legtanne	Leimbiene	Leimung
3 11/16	Lehrzimmer	Leibgeleit	Leibstueck	Leidenlos	Leigers	Leguaan	Leimfass	Leimungen
3 15/16	Lehrzwang	Leibgurt	Leibwache	Leidensweg	Leigroef	Legualho	Leimgrund	Leimwasser
4 3/16	Lehrzweck	Leibgurtes	Leibzwang	Leidenvoll	Leiguice	Leguana	Leimhamme	Leimgimer
4 7/16	Leiachtig	Leibjaeger	Leicenco	Leidfrauen	Leihbank	Leguario	Leimkessel	Leimzucker
4 11/16	Leiband	Leibkette	Leichdorn	Leidkleid	Leihhaus	Leguasses	Leimkitt	Leinacker
4 15/16	Leibarm	Leibknecht	Leichenie	Leidlich	Leihhauses	Legueriez	Leimkueche	Leinarten
5 7/16	Leibbursch	Leibknopf	Leichenzug	Leidlicher	.....	Leguerons	Leimmistel	Leinbau
5 15/16	.....	Leiblicher	Leichhuhn	Leidmantel	.....	Leguleian	Leimpinsel	Leinblatt

Style "A" and "B" Take-Ups

Fig. 45592. Style "A." (*Cercado*)

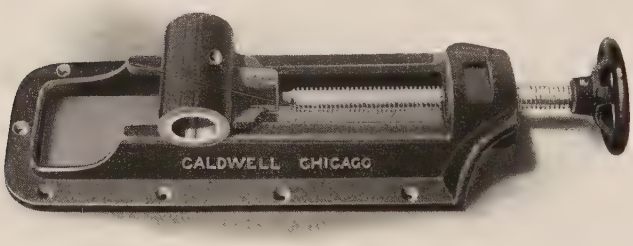


Fig. 45593. Style "B." (*Cerceau*)

Style "A" and "B" Take-Ups are used to take up the slack in belts of elevators and conveyors of ordinary length and where the work is not too severe. For long conveyors, where the travel of the Style "A" and "B" Take-Ups is not sufficient, use the Style "C" or Style "D" Take-Ups.

Bearings babbitted. Ends of bearings faced. Take-Ups made either to push or pull. Sizes 4 to 20 inclusive furnished with hand wheel as shown. Sizes 24 and 36 made with jaw clutch and lever on the take-up screw.

In ordering, always specify diameter of shaft and whether Style "A" or Style "B" is wanted.

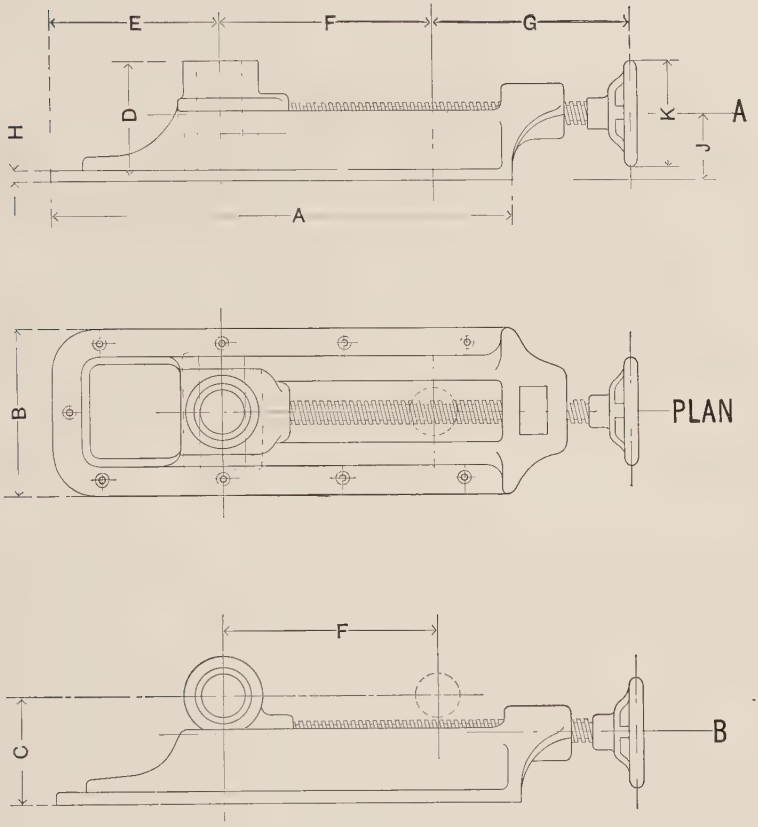
Price List, Subject to Discount

No. of Frame	Diam. of Shaft, Inches	Price each, "A" or "B"	CODE WORD	No. of Frame	Diam. of Shaft, Inches	Price each, "A" or "B"	CODE WORD
4	$\frac{11}{16}$	$4.25	Cerebral	9	$2\frac{3}{16}$	$11.00	Cerulific
4	$\frac{13}{16}$	4.50	Cerecloth	12	$2\frac{7}{16}$	14.00	Cerumen
4	$\frac{15}{16}$	4.50	Cerement	20	$2\frac{11}{16}$	20.00	Ceruminous
5	$1\frac{3}{16}$	5.00	Ceremonial	20	$2\frac{15}{16}$	25.00	Cerveda
7	$1\frac{7}{16}$	7.00	Ceremony	24	$3\frac{7}{16}$	36.00	Cervelet
7	$1\frac{11}{16}$	8.00	Certitude	24	$3\frac{15}{16}$	40.00	Cervellino
9	$1\frac{15}{16}$	10.00	Cerulean	36	$3\frac{15}{16}$	46.00	Cervical

In telegraphing use code word for size of shaft, followed by code word for style given under cut above.

Dimensions of Take-Up Boxes

Styles "A" and "B"



No. of Frame	Diam. of Shaft, Inches	DIMENSIONS, INCHES									
		A	B	C	D	E	F	G	H	J	K
4	$\frac{15}{16}$	11	$4\frac{3}{4}$	$2\frac{1}{2}$	3	$4\frac{1}{2}$	4	$9\frac{3}{4}$	$\frac{1}{4}$	$1\frac{1}{2}$	4
5	$1\frac{3}{16}$	$12\frac{1}{2}$	5	$2\frac{3}{4}$	3	$4\frac{1}{2}$	5	11	$\frac{1}{4}$	$1\frac{1}{2}$	4
7	$1\frac{7}{16}$	$16\frac{1}{2}$	$6\frac{1}{4}$	$3\frac{3}{4}$	4	$5\frac{1}{2}$	7	16	$\frac{3}{8}$	$2\frac{1}{2}$	$4\frac{3}{4}$
7	$1\frac{11}{16}$	$16\frac{1}{2}$	$6\frac{1}{4}$	4	$4\frac{1}{4}$	$5\frac{1}{2}$	7	16	$\frac{3}{8}$	$2\frac{1}{2}$	$4\frac{3}{4}$
9	$1\frac{15}{16}$	$20\frac{1}{2}$	$7\frac{3}{8}$	$4\frac{1}{2}$	5	$6\frac{3}{4}$	9	$18\frac{1}{2}$	$\frac{1}{2}$	3	$4\frac{3}{4}$
9	$2\frac{3}{16}$	$20\frac{1}{2}$	$7\frac{3}{8}$	5	$5\frac{1}{4}$	$6\frac{3}{4}$	9	$18\frac{1}{2}$	$\frac{1}{2}$	3	$4\frac{3}{4}$
12	$2\frac{7}{16}$	24	$8\frac{1}{8}$	5	$5\frac{1}{2}$	$7\frac{1}{2}$	12	22	$\frac{5}{8}$	$3\frac{1}{4}$	$6\frac{1}{4}$
20	$2\frac{11}{16}$	$33\frac{3}{4}$	10	6	6	$8\frac{3}{4}$	20	31	$\frac{5}{8}$	$3\frac{1}{2}$	$7\frac{3}{4}$
20	$2\frac{15}{16}$	$33\frac{3}{4}$	10	6	7	$8\frac{3}{4}$	20	31	$\frac{5}{8}$	$3\frac{1}{2}$	$7\frac{3}{4}$
24	$3\frac{7}{16}$	$44\frac{1}{2}$	$11\frac{1}{2}$	$7\frac{1}{2}$	9	$13\frac{1}{2}$	24	37	$\frac{3}{4}$	$4\frac{1}{2}$	8
24	$3\frac{15}{16}$	$44\frac{1}{2}$	$11\frac{1}{2}$	8	10	$13\frac{1}{2}$	24	37	$\frac{3}{4}$	$4\frac{1}{2}$	8
36	$3\frac{15}{16}$	57	$11\frac{1}{2}$	8	10	$13\frac{1}{2}$	36	49	$\frac{3}{4}$	$4\frac{1}{2}$	8

Style "C" Structural Frame Take-Ups

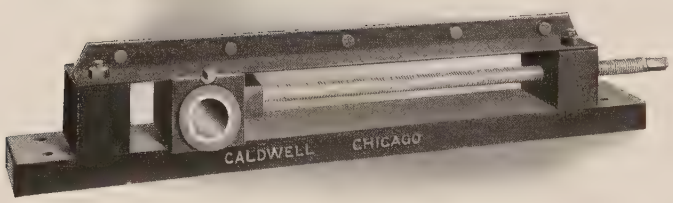


Fig. 45594. (*Claircage*)

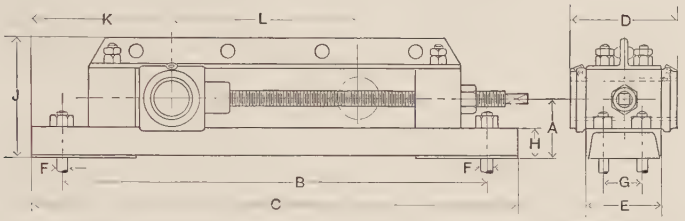
The bearings are babbitted and oil hole is tapped for grease cup. The grease cups are not included in the prices below.

This type of take-up is suitable for use where a simple, strong and effective take-up is required for heavy duty.

Price List, Subject to Discount

Diam. of Shaft, Inches	Movement of Box, Inches	Price, Each	CODE WORD	Diam. of Shaft, Inches	Movement of Box, Inches	Price, Each	CODE WORD
$1\frac{7}{16}$	8	$14.00	Lucrous	$2\frac{11}{16}$	30	$39.00	Cinxia
$1\frac{7}{16}$	12	15.50	Luctabitis	$2\frac{11}{16}$	36	42.00	Leerkamer
$1\frac{7}{16}$	18	18.00	Luctaminun	$2\frac{15}{16}$	12	32.50	Cinxisti
$1\frac{11}{16}$	8	16.00	Leergraag	$2\frac{15}{16}$	18	34.00	Cinyras
$1\frac{11}{16}$	12	17.25	Leerhandel	$2\frac{15}{16}$	24	37.00	Cinzilla
$1\frac{11}{16}$	18	19.50	Leerhaus	$2\frac{15}{16}$	30	40.00	Ciolle
$1\frac{15}{16}$	8	16.25	Cinolissa	$2\frac{15}{16}$	36	43.00	Cioncolo
$1\frac{15}{16}$	12	17.50	Cinomolgo	$3\frac{3}{16}$	18	45.00	Ciondoli
$1\frac{15}{16}$	18	20.00	Leerheit	$3\frac{3}{16}$	24	47.50	Cionelle
$2\frac{3}{16}$	8	21.75	Cinoreste	$3\frac{3}{16}$	30	51.25	Ciortone
$2\frac{3}{16}$	12	23.00	Cinosura	$3\frac{3}{16}$	36	55.00	Ciosmis
$2\frac{3}{16}$	18	25.50	Cinsero	$3\frac{7}{16}$	18	50.00	Ciotola
$2\frac{7}{16}$	8	22.50	Leerian	$3\frac{7}{16}$	24	52.50	Ciottassi
$2\frac{7}{16}$	12	23.75	Cintadero	$3\frac{7}{16}$	30	56.25	Cispicoso
$2\frac{7}{16}$	18	26.25	Cintarear	$3\frac{7}{16}$	36	60.00	Cissaea
$2\frac{7}{16}$	24	28.75	Cintareo	$3\frac{7}{16}$	42	63.75	Cissidas
$2\frac{7}{16}$	30	31.25	Cinteada	$3\frac{15}{16}$	18	67.50	Latigueaba
$2\frac{7}{16}$	36	33.75	Leeringly	$3\frac{15}{16}$	24	72.50	Latiguear
$2\frac{11}{16}$	12	31.50	Cintillos	$3\frac{15}{16}$	30	80.00	Latigueo
$2\frac{11}{16}$	18	33.00	Cintolino	$3\frac{15}{16}$	36	87.50	Latigueras
$2\frac{11}{16}$	24	36.00	Cinxeris	$3\frac{15}{16}$	42	95.00	Latiguillo

Dimensions of Style "C" Structural Frame Take-Ups



Diam. of Shaft, Inches	Travel "L," Inches	DIMENSIONS, INCHES									
		A	B	C	D	E	F	G	H	J	K
1 7/16	8	2 7/8	15 1/4	22 3/4	5	3	1/2	1 5/8	1 9/16	5 3/4	6 3/4
1 7/16	12	2 7/8	19 1/4	26 3/4	5	3	1/2	1 5/8	1 9/16	5 3/4	6 3/4
1 7/16	18	2 7/8	25 1/4	32 3/4	5	3	1/2	1 5/8	1 9/16	5 3/4	6 3/4
1 11/16 & 1 15/16	8	3 5/16	21 3/4	25 1/4	6	4	1/2	2 1/8	1 3/4	6 1/2	7 7/8
1 11/16 & 1 15/16	12	3 5/16	25 3/4	29 1/4	6	4	1/2	2 1/8	1 3/4	6 1/2	7 7/8
1 11/16 & 1 15/16	18	3 5/16	31 3/4	35 1/4	6	4	1/2	2 1/8	1 3/4	6 1/2	7 7/8
2 3/16 & 2 7/16	8	3 13/16	23	27	7	5	5/8	2 1/2	1 15/16	7 13/16	8 11/16
2 3/16 & 2 7/16	12	3 13/16	27	31	7	5	5/8	2 1/2	1 15/16	7 13/16	8 11/16
2 3/16 & 2 7/16	18	3 13/16	33	37	7	5	5/8	2 1/2	1 15/16	7 13/16	8 11/16
2 7/16	24	3 13/16	39	43	7	5	5/8	2 1/2	1 15/16	7 13/16	8 11/16
2 7/16	30	3 13/16	45	49	7	5	5/8	2 1/2	1 15/16	7 13/16	8 11/16
2 7/16	36	3 13/16	51	55	7	5	5/8	2 1/2	1 15/16	7 13/16	8 11/16
2 11/16 & 2 15/16	12	4 1/2	30	34	8	6	3/4	3	2 3/16	8 13/16	10
2 11/16 & 2 15/16	18	4 1/2	36	40	8	6	3/4	3	2 3/16	8 13/16	10
2 11/16 & 2 15/16	24	4 1/2	42	46	8	6	3/4	3	2 3/16	8 13/16	10
2 11/16 & 2 15/16	30	4 1/2	48	52	8	6	3/4	3	2 3/16	8 13/16	10
2 11/16 & 2 15/16	36	4 1/2	54	58	8	6	3/4	3	2 3/16	8 13/16	10
3 3/16 & 3 7/16	18	5	38	42	9	7	7/8	3 1/2	2 3/8	10 1/4	11
3 3/16 & 3 7/16	24	5	44	48	9	7	7/8	3 1/2	2 3/8	10 1/4	11
3 3/16 & 3 7/16	30	5	50	54	9	7	7/8	3 1/2	2 3/8	10 1/4	11
3 3/16 & 3 7/16	36	5	56	60	9	7	7/8	3 1/2	2 3/8	10 1/4	11
3 7/16	42	5	62	66	9	7	7/8	3 1/2	2 3/8	10 1/4	11
3 15/16	18	5 5/8	40 1/2	45 1/2	10	8	1	4	2 1/2	11 7/8	12 1/2
3 15/16	24	5 5/8	46 1/2	51 1/2	10	8	1	4	2 1/2	11 7/8	12 1/2
3 15/16	30	5 5/8	52 1/2	57 1/2	10	8	1	4	2 1/2	11 7/8	12 1/2
3 15/16	36	5 5/8	58 1/2	63 1/2	10	8	1	4	2 1/2	11 7/8	12 1/2
3 15/16	42	5 5/8	64 1/2	69 1/2	10	8	1	4	2 1/2	11 7/8	12 1/2

Special Spring Take-Up

Fig. 45595. (*Luftfahrt*)

This take-up similar in construction to the Style "C", shown on opposite page, is made with a heavy spring, to take care of any sudden shrink in the belt, etc. Price on application.

Style "D" Take-Up

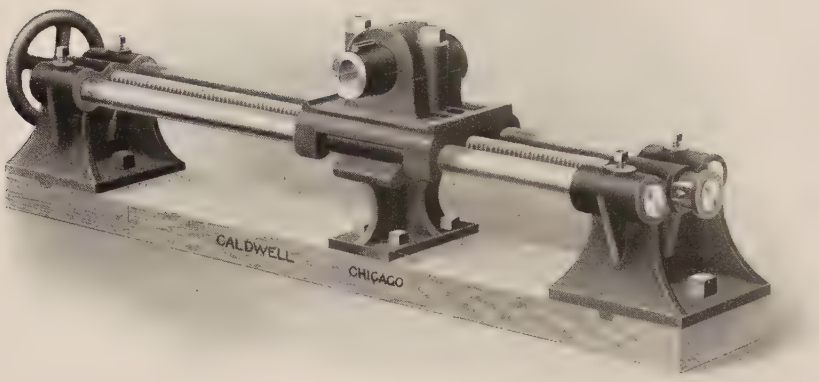


Fig. 45596. (*Comfiture*)

This style of take-up is recommended for heavy service and for use with long belts where long length of travel is required.

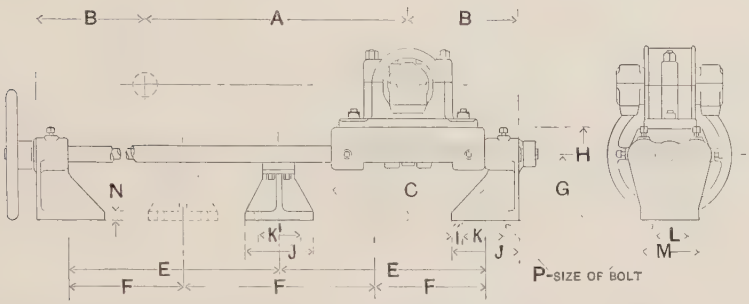
The bearings are regularly furnished ball and socket and wick-oiling. Ring-oiling bearings will be furnished if preferred, but wick-oiling bearings are always supplied unless otherwise specified.

The supporting casting placed about midway in the travel of the bearing stiffens the carrying rods and prevents springing or vibration.

Price List, Subject to Discount

Diam. of Shaft, Inches	CODE for Shaft Size	LENGTH OF TRAVEL 3 feet (Construing)	4 feet (Consular)	5 feet (Congru)	6 feet (Contemn)	7 feet (Leerkever)	8 feet (Contempt)
$2\frac{3}{16}$	Contended	$ 55.00	$ 62.00	$ 69.00	$ 71.00	$ 73.00	$ 75.00
$2\frac{7}{16}$	Contention	60.00	67.00	74.00	76.00	78.00	80.00
$2\frac{15}{16}$	Contestor	65 00	72.00	79.00	81.00	83.00	85.00
$3\frac{7}{16}$	Context	90.00	101.00	112.00	116.00	119.00	123.00
$3\frac{15}{16}$	Conite	105.00	116.00	127.00	131.00	134.00	138.00

Dimensions of Style "D" Take-Ups



No. of Takeup Inches	Diam. of Shaft Inches	Travel, A	DIMENSIONS, INCHES												
			B	C	E	F	G	H	J	K	K1	L	M	N	P
1	2 3/16	36	10 1/4	14 1/2	25 1/4	16 7/8	6 1/4	8 3/4	6 1/2	4	4 1/2	2 1/2	5 1/2	3/4	5/8
	to	48	10 1/4	14 1/2	31 1/4	20 7/8	6 1/4	8 3/4	6 1/2	4	4 1/2	2 1/2	5 1/2	3/4	5/8
	2 15/16	60	10 1/4	14 1/2	37 1/4	24 7/8	6 1/4	8 3/4	6 1/2	4	4 1/2	2 1/2	5 1/2	3/4	5/8
		72	10 1/4	14 1/2	43 1/4	28 7/8	6 1/4	8 3/4	6 1/2	4	4 1/2	2 1/2	5 1/2	3/4	5/8
		96	10 1/4	14 1/2	55 1/4	36 7/8	6 1/4	8 3/4	6 1/2	4	4 1/2	2 1/2	5 1/2	3/4	5/8
2	3 3/16	36	12 1/4	17 1/2	26 3/4	17 7/8	7 1/4	10 1/4	7 1/2	4 7/8	5 1/2	3 3/8	6 5/8	7/8	3/4
	to	48	12 1/4	17 1/2	32 3/4	21 7/8	7 1/4	10 1/4	7 1/2	4 7/8	5 1/2	3 3/8	6 5/8	7/8	3/4
	3 15/16	60	12 1/4	17 1/2	38 3/4	25 7/8	7 1/4	10 1/4	7 1/2	4 7/8	5 1/2	3 3/8	6 5/8	7/8	3/4
		72	12 1/4	17 1/2	44 3/4	29 7/8	7 1/4	10 1/4	7 1/2	4 7/8	5 1/2	3 3/8	6 5/8	7/8	3/4
		96	12 1/4	17 1/2	56 3/4	37 7/8	7 1/4	10 1/4	7 1/2	4 7/8	5 1/2	3 3/8	6 5/8	7/8	3/4
3	4 7/16	36	14	20	28	18 5/8	8 1/4	11 1/2	8 1/2	5 3/4	6 1/2	4 1/4	7 3/4	1	3/4
		48	14	20	34	22 5/8	8 1/4	11 1/2	8 1/2	5 3/4	6 1/2	4 1/4	7 3/4	1	3/4
		60	14	20	40	26 5/8	8 1/4	11 1/2	8 1/2	5 3/4	6 1/2	4 1/4	7 3/4	1	3/4
		72	14	20	46	30 5/8	8 1/4	11 1/2	8 1/2	5 3/4	6 1/2	4 1/4	7 3/4	1	3/4
		96	14	20	58	38 5/8	8 1/4	11 1/2	8 1/2	5 3/4	6 1/2	4 1/4	7 3/4	1	3/4

Style "L" Extra Heavy Take-Up

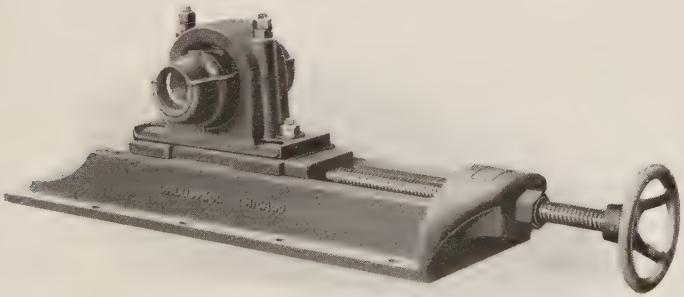


Fig. 45597. (*Laufkampf*)

This take-up is made with Ball and Socket Ring Oiling Bearings. The frame is extra heavy. Furnished with handwheel as shown or with squared end on take-up screw.

Prices on application.

Wood Bearing Take-Ups Style "E"

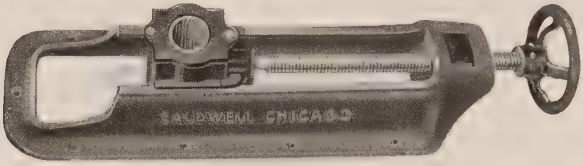


Fig. 45598. (*Cessible*)

For use where it is extremely difficult to lubricate the bearings of take-up boxes, or where dust rapidly dries out the oil, we recommend the special design take-up shown above. This take-up has a wooden bearing specially treated, so that no lubrication is necessary. They have been found especially successful for foot shafts of elevators where the ordinary babbitted bearings cannot be used.

Price List, Subject to Discount

Diam. of Shaft, Inches	Number of Frame	Price	CODE WORD
$1\frac{15}{16}$	12	$15.00	Cetacea
$2\frac{3}{16}$	12	18.00	Chaborra
$2\frac{7}{16}$	20	25.00	Chacun
$2\frac{15}{16}$	24	40.00	Chafallon

Note—Size $2\frac{15}{16}$ is made with screw having squared end, but without hand wheel.

Spring Take-Ups

Fig. 45599. (*Lavoteado*)

Styles A and B Take-Ups can be made with springs as shown above. The spring takes care of any sudden variation in the tension on the belt, due to shrinking, etc.

Prices on application.

Style "M" Take-Ups

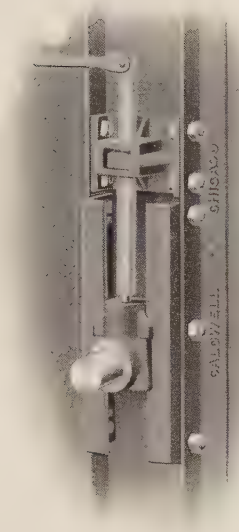


Fig. 45600 (*Lotononis*)

This take-up is particularly suited for use with steel elevator boots. It is simple, compact and substantial. The bearings are babbitted and the oil holes are tapped for grease cups. Grease cups are not included at the prices below.

Price List, Subject to Discount

Diameter of Shaft, Inches	Price, Each	CODE WORD	Travel, Inches
$1\frac{7}{16}$	$11.00	Lotophagi	7
$1\frac{15}{16}$	14.00	Lotophagon	9
$2\frac{7}{16}$	18.00	Lotosartig	9
$2\frac{15}{16}$	30.00	Lotosklee	12

Elevator Head Take-Ups, Style "F"

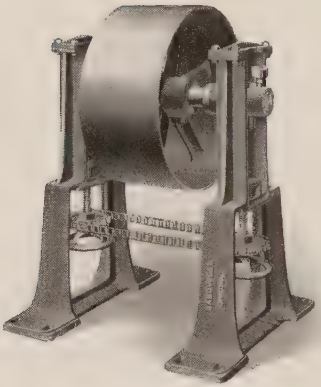
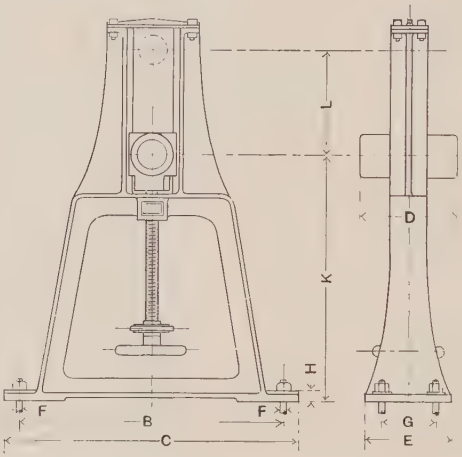


Fig. 45601. (*Latinabunt*)



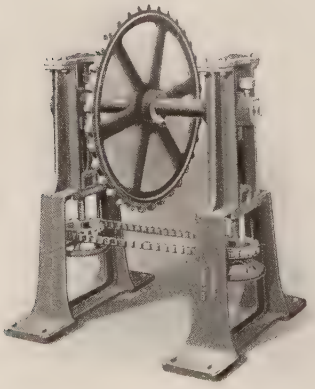


Fig. 45602. (*Latinada*)

The prices below include bearings and frames, and if a pair of take-ups is ordered, the necessary link belting and sprocket wheels for connecting the take-up screws. Prices do not include shafts, pulleys or large sprocket wheels.

Price List, Subject to Discount

Diam. of Shaft, Inches	Price, Each	CODE WORD For One	Price, per Pair	CODE WORD For Pair
$1\frac{15}{16}$	$32.50	Chaffering	$ 65.00	Chagrin
$2\frac{7}{16}$	40.00	Chaffinch	80.00	Chagrinant
$2\frac{15}{16}$	52.50	Chaflanar	105.00	Chainette
$3\frac{7}{16}$	60.00	Chaffless	120.00	Chairman

Diameter of Shaft, Inches	DIMENSIONS, INCHES								
	B	C	D	E	F	G	H	K	L
$1\frac{15}{16}$	$24\frac{1}{2}$	28	$7\frac{1}{4}$	$7\frac{3}{4}$	$\frac{3}{4}$	5	1	$23\frac{1}{4}$	10
$2\frac{7}{16}$	$24\frac{1}{2}$	28	$7\frac{1}{4}$	$7\frac{3}{4}$	$\frac{3}{4}$	5	1	$23\frac{1}{4}$	10
$2\frac{15}{16}$	30	$33\frac{1}{2}$	11	10	$\frac{7}{8}$	6	1	28	12
$3\frac{7}{16}$	30	$33\frac{1}{2}$	11	10	$\frac{7}{8}$	6	1	28	12

Extra Heavy Elevator Head Take-Ups, Style "G"

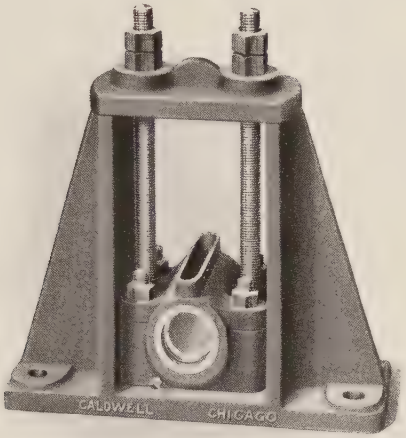
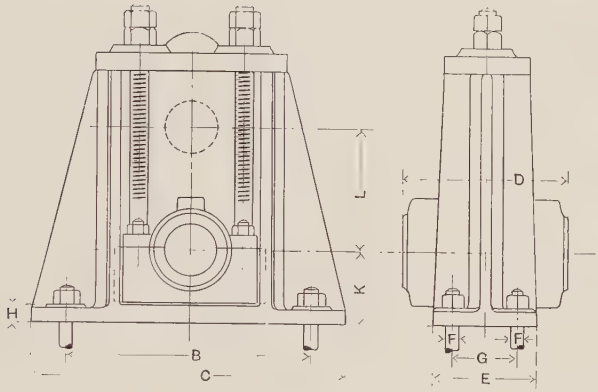


Fig. 45603. (*Cacheroso*)



Style "G" Heavy Elevator Head Take-Ups are intended for very severe service, where the usual pattern, Style "F," will not be strong enough. Two take-up rods are furnished to each bearing, with nut and locknut, but without handwheel. The bearings are babbitted.

Price List, Subject to Discount

Diameter of Shaft, Inches	Price Each	CODE WORD	DIMENSIONS, INCHES								
			B	C	D	E	F	G	H	K	L
$1\frac{15}{16}$	$20.00	Leerknapp	$13\frac{1}{2}$	16	$6\frac{1}{4}$	$5\frac{1}{2}$	$\frac{3}{4}$	3	1	$3\frac{3}{4}$	$5\frac{3}{4}$
$2\frac{7}{16}$	27.00	Leerkooper	14	18	$9\frac{1}{2}$	6	$\frac{3}{4}$	$3\frac{3}{4}$	$1\frac{1}{16}$	$4\frac{1}{4}$	7
$2\frac{15}{16}$	35.00	Leerkopf	14	18	$9\frac{1}{2}$	6	$\frac{3}{4}$	$3\frac{3}{4}$	$1\frac{1}{16}$	$4\frac{1}{4}$	7
$3\frac{7}{16}$	48.00	Leerlingen	18	22	12	8	$\frac{7}{8}$	$5\frac{1}{2}$	$1\frac{1}{4}$	$4\frac{1}{8}$	9

Protected Screw Take-Ups

Fig. 45604. (*Chaircer*)
Style "H" Angle Iron Construction

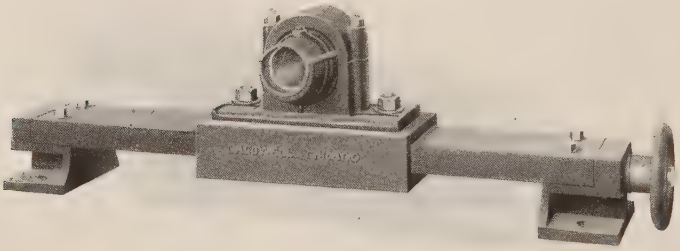


Fig. 45605. (*Laufjunge*)
Style "J" Channel Top Take-Up

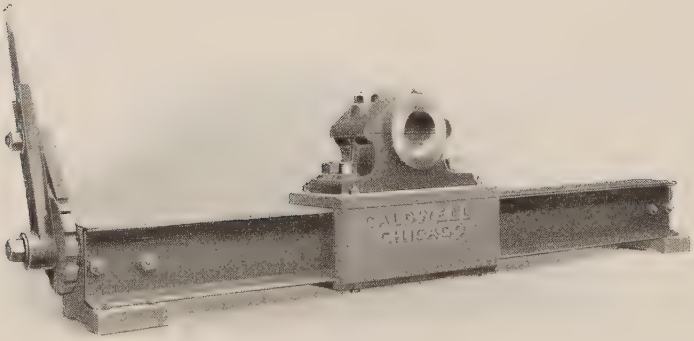
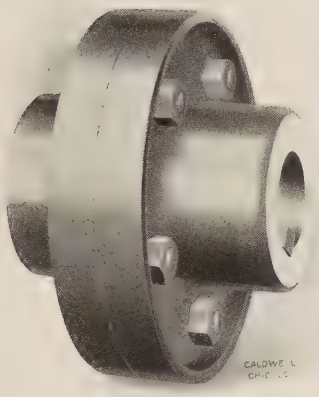


Fig. 45606. (*Latigazo*)
Style "K" I-Beam Construction

Flange-Faced or Plate Couplings



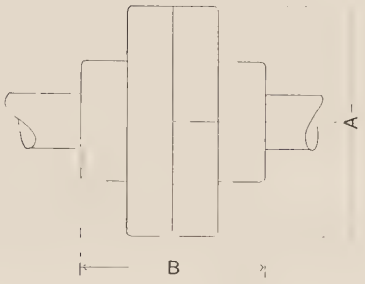


Fig. 45607 (*Chantism*)

Our flanged faced couplings are turned on all surfaces. Jigs are used in drilling the holes so that all couplings of a given size are interchangeable. The holes are reamed, and turned steel bolts are furnished.

When the couplings are ordered fitted to shafts, the price includes facing of the couplings after they are fitted to the shafts.

Reduction couplings are figured at the price of the larger size.

Price List, Including Keys, Subject to Discount

Diam. of Shaft, Inches	PRICE PER PAIR		CODE WORD	DIMENSIONS, INCHES	
	Not Fitted to Shafts, (Chantress)	Fitted to Shafts. (Chaology)		A	B
1 3/16	$ 7.50	$ 9.90	Chapeau	6 1/2	5
1 7/16	8.00	10.50	Chapel	7 1/2	6
1 1/2	8.00	10.50	Chapellany	8 1/4	6 3/4
1 11/16	8.50	11.10	Chapelure	8 3/4	7
1 15/16	9.00	11.75	Chaperon	9 1/4	7 1/4
2	9.00	11.75	Chapfallen	9 1/4	7 1/4
2 3/16	10.50	13.40	Chaplain	10	8
2 7/16	12.50	15.60	Chaplet	10 5/8	8 1/2
2 11/16	15.25	18.50	Chapman	11 1/2	9
2 15/16	18.25	21.75	Chapters	12	9 3/4
3	18.25	21.75	Chaqueta	12	9 3/4
3 3/16	21.75	25.75	Character	12 5/8	10 1/2
3 7/16	25.25	29.75	Charade	13 1/4	11 1/2
3 11/16	29.25	34.25	Charancon	14	11 1/2
3 15/16	33.25	39.25	Charcoal	14 1/2	12
4 3/16	38.25	45.25	Legalizeis	14 1/2	12
4 7/16	43.25	51.25	Charcuter	15 1/4	12 1/4
4 11/16	49.00	58.00	Legalizing	15 3/4	13 1/2
4 15/16	54.75	64.75	Chardonnet	16 1/2	14 1/4
5 7/16	67.00	78.00	Charger	17 1/2	15 1/4
5 15/16	81.00	93.00	Chariness	19	15 1/2
6 7/16	95.50	109.00	Chariot	24	20 1/2
6 15/16	110.00	125.00	Charitable	26	22 1/2

Ribbed Compression Couplings

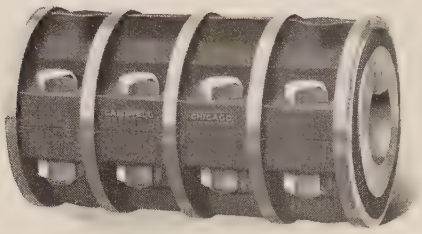


Fig. 45608. (*Champetre*)
Standard Pattern

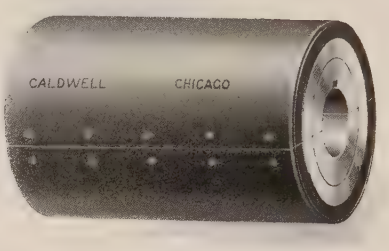
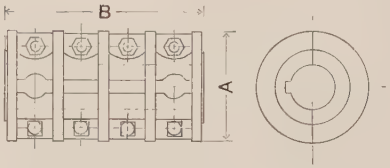


Fig. 45609. (*Landbuches*)
Special Pattern
with protecting casing.

From large shafts and severe work we recommend the Flange-faced coupling, page 709.



Price List of Standard Pattern

Subject to Discount

Diam. of Shaft, Inches	Price Not Fitted to Shaft	Price Fitted to Shaft	CODE WORD for Bore or Shaft Size	DIMENSIONS, INCHES	
				A	B
1 3/8	$ 5.50	$ 7.20	Champignon	3 7/8	5 3/4
1 7/16	6.00	7.70	Champion	4 3/8	6 1/4
1 11/16	7.00	8.70	Chancel	4 3/4	7 7/8
1 15/16	8.00	9.70	Chancellor	5 1/4	8 1/4
2 3/16	9.00	11.50	Chandelier	5 1/2	9 3/8
2 7/16	10.75	13.25	Chandler	5 3/4	10
2 11/16	13.00	15.50	Chanfrein	6 3/4	12
2 15/16	16.50	19.00	Changeful	6 3/4	12
3 3/16	20.00	23.30	Changeable	7 3/4	14
3 7/16	24.00	27.30	Changeling	7 3/4	14
3 11/16	28.00	31.30	Channelled	9	16
3 15/16	32.00	35.30	Chanson	9	16
4 3/16	37.00	40.30	Chantable	10	18
4 7/16	42.00	45.50	Chanter	10	18
4 11/16	48.00	52.00	Chapadanza	11	20
4 15/16	55.00	60.00	Chapataleo	11	20

Code word for "Fitted to Shaft," Chandano.
Code word for "Not Fitted to Shaft," Changador.
A key is included with each coupling whether fitted or not.
In figuring couplings for connecting two shafts of different diameters, add 10 per cent to price of larger size.

Special Cone Compression Couplings

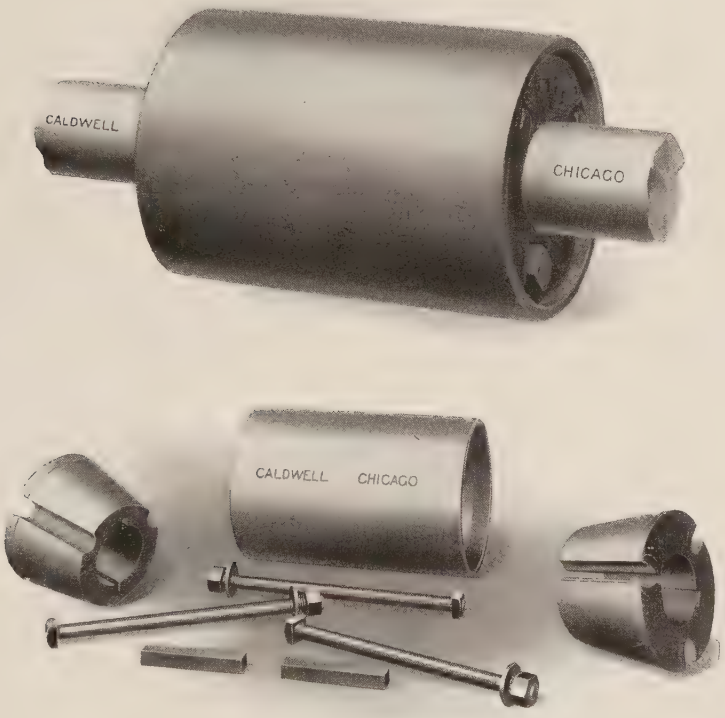


Fig. 45610. (*Chaland*)

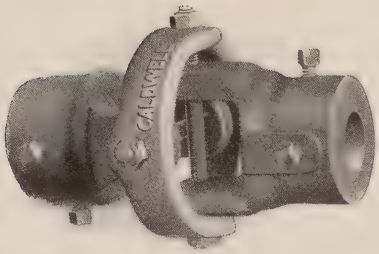
By tightening the bolts the cones are drawn together and the ends of the shafts tightly gripped in the bore of the coupling. The shafts are thus held central in the coupling, and the bore of the coupling accommodates itself to any slight inaccuracy in the diameter of the shaft.

Price List, Subject to Discount

Diam. of Shaft	Price	CODE WORD	Outside Diam. of Cplg. Inches	Length of Cplg. Inches	Diam. of Shaft	Price	CODE WORD	Outside Diam. of Cplg. Inches	Length of Cplg. Inches
$1\frac{7}{16}$	$ 5.65	Chalastics	4	$5\frac{1}{2}$	$3\frac{3}{16}$	$17.12	Chamber	$9\frac{1}{4}$	$13\frac{1}{4}$
$1\frac{11}{16}$	6.15	Chalet	$4\frac{1}{2}$	$6\frac{1}{4}$	$3\frac{7}{16}$	22.80	Chainwork	$9\frac{1}{4}$	$13\frac{1}{4}$
$1\frac{15}{16}$	7.80	Chalice	$5\frac{1}{4}$	$7\frac{1}{4}$	$3\frac{15}{16}$	30.15	Chameleon	10	15
$2\frac{3}{16}$	9.00	Chalkiness	$5\frac{3}{4}$	$8\frac{3}{4}$	$4\frac{7}{16}$	45.25	Chamois	$11\frac{3}{8}$	16
$2\frac{7}{16}$	10.30	Chalky	$6\frac{3}{4}$	$9\frac{1}{4}$	$4\frac{15}{16}$	61.85	Champeaux	$12\frac{9}{16}$	18
$2\frac{11}{16}$	12.00	Challenger	8	11	$5\frac{7}{16}$	80.00	Champerty	$13\frac{1}{2}$	$19\frac{1}{2}$
$2\frac{15}{16}$	14.50	Chamaron	8	11	$5\frac{15}{16}$	96.00	Leermachen	$14\frac{1}{2}$	21

An extra charge will be made for reducing couplings and for couplings bored other than standard.

Ring Type Universal Couplings



This coupling is intended for slow speed shafts varying not more than 20 degrees from a straight line. We do not recommend it for heavy or high speed work. For greater angles and high speed we recommend a selection of special angle gears as indicated on page 438.

Fig. 45611. (*Chaste*)

Price List, Subject to Discount

Bore	Price	CODE WORD	Bore	Price	CODE WORD
$\frac{15}{16}$	$5.50	Legalizza	2	$ 8.00	Chat
$1\frac{3}{16}$	6.00	Chastener	$2\frac{3}{16}$	9.50	Chateau
$1\frac{7}{16}$	6.50	Chasteness	$2\frac{7}{16}$	11.00	Chatelain
$1\frac{1}{2}$	6.50	Chastise	$2\frac{11}{16}$	12.75	Chattels
$1\frac{11}{16}$	7.00	Chastity	$2\frac{15}{16}$	15.00	Chatterbox
$1\frac{15}{16}$	8.00	Chasuble			

Nut Type Universal Couplings for Caldwell Conveyor

Fig. 45612. (*Chattering*)

The nut type universal coupling is designed especially for coupling sections of Caldwell conveyor. The construction of the coupling is such that it offers the least possible obstruction to the passage of the material. It is not recommended for use where the difference in angle of shafts is more than 20 degrees.

Price List, Subject to Discount

Diameter of Shaft, Inches	WITH CONVEYOR COUPLING SHAFTS		WITHOUT SHAFTS	
	Price Each	CODE WORD	Price Each	CODE WORD
1	$ 6.25	Luddite	$ 5.50	Luderetis
$1\frac{1}{2}$	8.00	Ludebant	6.75	Ludergaul
2	10.00	Ludebatur	8.50	Ludgero
$2\frac{7}{16}$	14.00	Ludendos	12.00	Ludibrio
3	20.00	Ludendum	17.00	Ludibrioso

For proper size of coupling to use with various sizes of conveyor, see pages 22 to 25.

Flexible Couplings

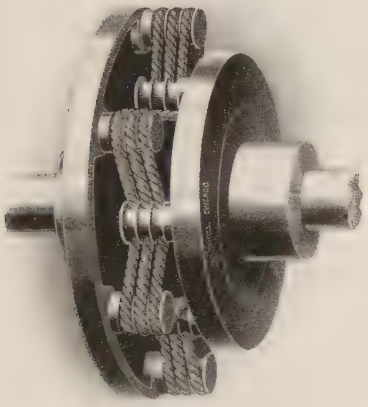


Fig. 45613. (*Lavoratura*)
Endless Rope Type Flexible Coupling

Fig. 45614. (*Luftfang*)
Spring Type Flexible Coupling

Flexible Couplings are frequently used for connecting shafts which cannot be kept in perfect alignment, or where excessive vibration is present, as in rolling mill drives from motors, motors driving blowers, etc. The two types shown above are suitable particularly for heavy work. We also make couplings in which leather links take the place of the endless rope in Fig. 45613, and also for light work furnish a coupling in which an endless belt takes the place of the rope.

Inquiries for price on flexible couplings should specify the speed at which the coupling is to run, the horse power to be transmitted and the kind of load, that is, motor to blower, motor to rolling mill, etc. Also specify the diameter of both shafts and size of keyseats.

Jaw Clutches and Jaw Clutch Couplings

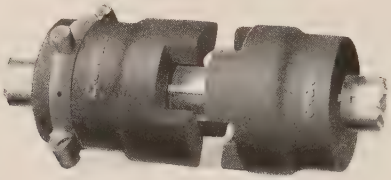


Fig. 45615. (*Cheapness*)
Square Jaw Clutch Coupling

Fig. 45616. (*Landreeve*)
Left Hand Spiral Jaw Clutch Coupling

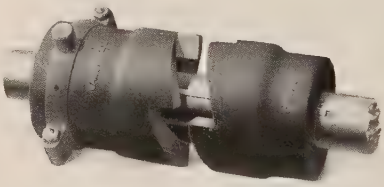


Fig. 45617. (*Cheatingly*)
Right Hand Spiral Jaw Clutch Coupling

Jaw clutches are not intended to be thrown in or out of mesh while carrying the load, nor while in motion.

Price List, Subject to Discount

No.	Size	Clutch Coupling	CODE WORD	Sliding Half Clutch	CODE WORD	Jaw Clutch Hubs	CODE WORD
3	$1\frac{5}{16}$	$ 7.60	Chemical	$ 4.00	Checkers	$ 0.80	Chicanery
$3\frac{1}{2}$	$1\frac{3}{16}$	8.00	Chemin	4.25	Checkless	.95	Chicken
4	$1\frac{7}{16}$	9.50	Chemistry	5.00	Checkmate	1.20	Chickling
$4\frac{1}{2}$	$1\frac{11}{16}$	11.00	Chenapan	5.75	Cheerful	1.45	Chickweed
5	$1\frac{15}{16}$	12.50	Chenille	6.50	Cheerily	1.90	Chiding
$5\frac{1}{2}$	$2\frac{3}{16}$	13.50	Checquered	7.00	Cheeringly	2.30	Chiefdom
6	$2\frac{7}{16}$	15.00	Chercher	8.00	Cheerless	2.70	Chieftan
$6\frac{1}{2}$	$2\frac{11}{16}$	17.00	Cherish	9.00	Cheesecake	3.00	Chiffon
7	$2\frac{15}{16}$	21.00	Cherishing	11.00	Cheflieu	3.60	Chiffonier
$7\frac{1}{2}$	$3\frac{3}{16}$	25.00	Cheroot	13.00	Cheval	4.25	Chignon
8	$3\frac{7}{16}$	28.50	Cherub	15.00	Chevalier	5.00	Chilblain
$8\frac{1}{2}$	$3\frac{11}{16}$	36.00	Cherubical	19.00	Chevreau	6.25	Child
9	$3\frac{15}{16}$	42.00	Cherubim	22.00	Chevron	7.25	Childhood
10	$4\frac{7}{16}$	53.00	Cherry	28.00	Chewing	8.25	Chiarore
11	$4\frac{15}{16}$	67.00	Chess	35.00	Chibalete	9.00	Chiaroso
12	$5\frac{7}{16}$	80.00	Chessboard	42.00	Chibon	10.50	Chiasma
13	$5\frac{15}{16}$	95.00	Chessmen	50.00	Chestnut	12.50	Chiasmos

The above price list does not include clutch bands or shifting levers for which an additional charge will be made; see opposite page.

When jaw clutches are to be applied to pulleys, gears, sheaves or sprockets, as shown on page 716, use list for jaw clutch hubs and sliding half of clutch as specified above, and also the list on opposite page for clutch bands and levers if these are desired.

When clutch hubs are furnished on bevel or miter gears it is necessary to have special steel collar in the jaws, for which an extra charge will be made.

For dimensions see page 718.

Clutch Bands and Shifting Levers

Our clutch bands are cast iron, bored, turned and split. They fit the shifter grooves in jaw clutches of the same list number. See page 714.

The lever and yoke are wrought iron.

In ordering levers, state whether style shown as No. 1 or No. 2 is desired, the difference between the two styles depending upon the position of the fulcrum on the lever. Both style No. 1 and No. 2 are furnished with levers of standard lengths unless special instructions are given as to the dimensions indicated by the letters on the cut. Prices given below include levers of standard length, and if unusually long levers are required, an extra charge will be made.

Fig. 45618
(*Chinchilla*)
No. 1

Fig. 45619
(*Chink*)
No. 2

Price List, Subject to Discount

No.	Shaft Size Inches	Price Clutch Band	CODE WORD, Clutch Band	Price, No. 1 Lever Including Band	CODE WORD, No. 1 Lever, Including Band	Price, No. 2 Lever, Including Band	CODE WORD, No. 2 Lever, Including Band
3	$\frac{15}{16}$	$ 1.40	Chipaze	$ 7.50	Choir	$ 6.00	Christian
3½	$1\frac{3}{16}$	1.55	Chipping	8.00	Choke	6.50	Christmas
4	$1\frac{7}{16}$	1.70	Chirograph	8.50	Choking	7.00	Chroma
4½	$1\frac{11}{16}$	1.85	Chirology	9.00	Cholerique	7.50	Chromatic
5	$1\frac{15}{16}$	2.05	Chiromancy	9.50	Chomage	8.00	Chronic
5½	$2\frac{3}{16}$	2.40	Chiroplast	10.50	Chooser	9.00	Chronicler
6	$2\frac{7}{16}$	2.40	Chirper	10.50	Chopping	9.00	Chronogram
6½	$2\frac{11}{16}$	2.75	Chirrup	12.00	Chopstick	10.00	Chronology
7	$2\frac{15}{16}$	3.00	Chirurgic	13.00	Choral	11.00	Chrysalis
7½	$3\frac{3}{16}$	3.25	Chiselling	14.50	Choralist	12.00	Chrysolite
8	$3\frac{7}{16}$	3.50	Chitchat	16.50	Chorister	13.50	Chubby
8½	$3\frac{11}{16}$	4.25	Chivalrous	20.00	Chorometry	16.50	Chuckle
9	$3\frac{15}{16}$	5.00	Chivalry	23.00	Choufleur	18.50	Chuckling
10	$4\frac{7}{16}$	6.50	Chloris	27.00	Chowder	23.00	Chuffily
11	$4\frac{15}{16}$	8.50	Chloroform	30.00	Chrism	26.00	Chuffiness
12	$5\frac{7}{16}$	10.50	Chocador	35.00	Chrismal	30.00	Chumie
13	$5\frac{15}{16}$	12.50	Choiceless	40.00	Christened	35.00	Chump

Jaw Clutches

As Applied to Pulleys, etc.

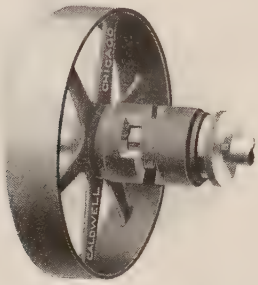


Fig. 45620. (*Landward*)
Pulley with Square Jaw Clutch

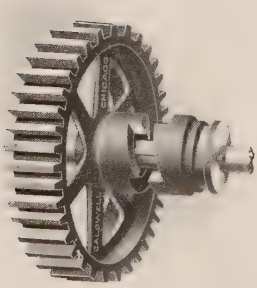


Fig. 45621. (*Landwein*)
Spur Gear with Right Hand Spiral Jaw Clutch

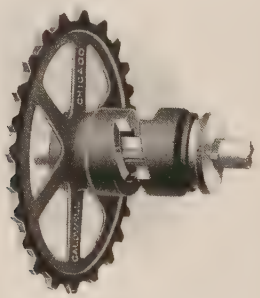


Fig. 45622. (*Landwegen*)
Sprocket Wheel with Right Hand Spiral Jaw Clutch

By casting one-half of the jaw clutch coupling as a part of the hub of the wheel, the wheel may be thrown in and out of gear by engaging or disengaging the sliding half of the clutch. In addition to the charge for the sliding half of the clutch, and the clutch band and lever, prices given in column "Jaw Clutch Hubs" on page 714 are added to the cost of the pulley, gear or sprocket wheel for the jaw clutch hub.

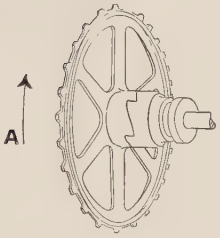
When jaw clutches are to be applied to pulleys, gears, sheaves, or sprockets, use list for jaw clutch hubs and sliding half clutch, page 714, and the list on page 715, if clutch bands and levers are desired.

For dimensions, see page 718.

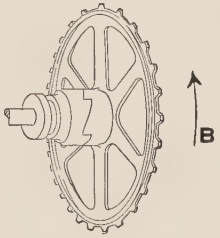
Spiral Jaw Clutches Variously Arranged

Clutch Driving the Wheel

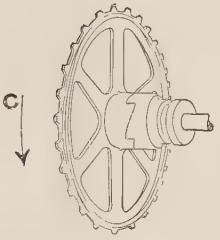
(Power is transmitted from Shaft to Wheel)



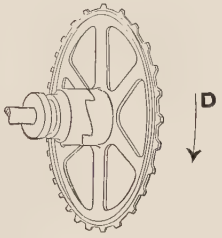
Right-Hand



Left-Hand



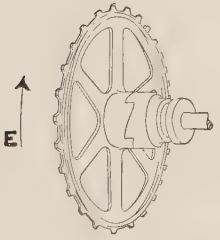
Left-Hand



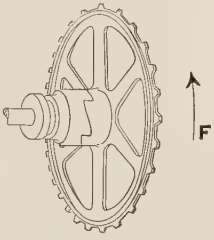
Right-Hand

Wheel Driving the Clutch

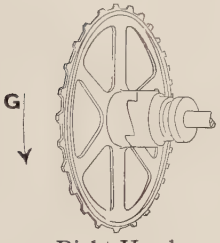
(Power is transmitted from Wheel to Shaft)



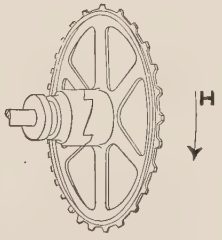
Left-Hand



Right-Hand



Right-Hand



Left-Hand

In ordering pulleys, gears, or sprocket wheels with spiral jaw clutch hubs, please use letters A, B, C, etc., to indicate desired arrangment.

Dimensions of Spiral and Square Jaw Clutch Couplings

Standard Pattern

Clutches of these dimensions will be furnished on all orders unless extra heavy clutches, as shown on opposite page, are specified.

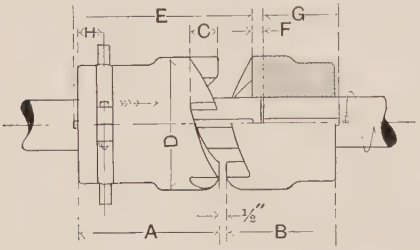


Fig. 45623
Right-hand Spiral

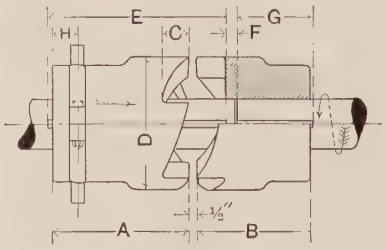


Fig. 45624
Left-hand Spiral

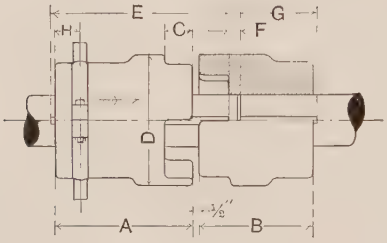


Fig. 45625
Square Jaw

Number of Clutch	Diameter of Shaft, Inches	DIMENSIONS INCHES								NO. OF JAWS	
		A	B	C	D	E	F	G	H	Square	Spiral
3	1 5/16	3 3/4	2 3/4	3/4	3	5	1/4	1 3/4	1 3/16	2	3
3 1/2	1 3/16	4 3/8	3 3/8	1 3/16	3 1/2	5 3/4	1/4	2 1/4	7/8	2	3
4	1 7/16	5	3 3/4	1 3/16	4	6 1/4	1/4	2 3/4	1	3	4
4 1/2	1 11/16	5 3/8	4 1/4	1	4 1/2	7	3/8	3	1	3	4
5	1 15/16	6	4 5/8	1 1/16	5	7 1/2	3/8	3 1/4	1	3	4
5 1/2	2 3/16	6 3/4	5	1 1/4	5 1/2	8 1/2	3/8	3 1/2	1 1/4	3	4
6	2 7/16	7 1/8	5 1/4	1 5/16	6	9	1/2	3 3/4	1 1/4	3	4
6 1/2	2 11/16	7 1/2	6	1 5/16	6 1/2	9 1/2	1/2	4 1/4	1 1/4	3	5
7	2 15/16	8	6 1/4	1 1/2	7	10	5/8	4 1/2	1 5/16	3	5
7 1/2	3 3/16	8 3/4	6 3/4	1 3/4	7 1/2	11	5/8	4 3/4	1 5/16	3	5
8	3 7/16	9 1/4	7 1/4	1 3/4	8	11 1/2	3/4	5	1 3/8	3	5
9	3 15/16	10	8	2	9	12 1/2	3/4	5 1/4	1 1/2	3	5
10	4 7/16	11 1/4	9	2 1/4	10	14	7/8	6	1 13/16	3	5
11	4 15/16	12	9 3/4	2 1/2	11	15	7/8	6 1/2	1 13/16	4	6
12	5 7/16	13 1/4	10 5/8	2 1/2	12	16 1/2	1	7 1/4	1 7/8	4	6
13	5 15/16	14	11 1/2	3	13	17 1/2	1	7 1/2	1 7/8	4	6

Dimensions of Spiral and Square Jaw Clutch Couplings

Extra Heavy Pattern

Clutches of this pattern will only be furnished on special order, and price list on page 714 will not apply.

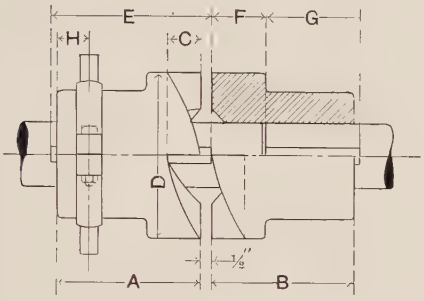


Fig. 45626
Right-hand Spiral

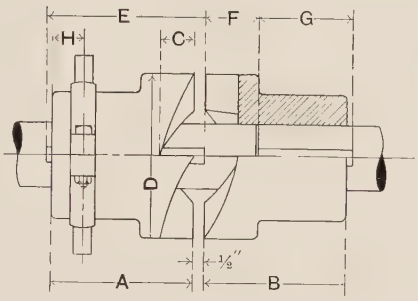


Fig. 45627
Left-hand Spiral

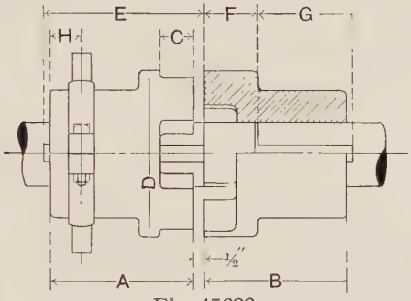


Fig. 45628
Square Jaw

Diam of Shaft, Inches	DIMENSIONS, INCHES								NO. OF JAWS	
	A	B	C	D	E	F	G	H	Square	Spiral
1 7/16	3 1/2	3 1/2	3/4	3 3/4	4	1 1/4	2 1/4	13/16	4	4
1 11/16	3 15/16	3 15/16	7/8	4 3/8	4 7/16	1 7/16	2 1/2	15/16	4	4
1 15/16	4 3/8	4 3/8	1	5	4 7/8	1 5/8	2 3/4	1 1/8	4	4
2 3/16	5 1/16	5 1/16	1 1/8	5 5/8	5 9/16	1 13/16	3 1/4	1 1/4	4	4
2 7/16	5 9/16	5 9/16	1 1/4	6 1/4	6 1/16	2 1/16	3 1/2	1 5/16	4	4
2 11/16	6	6	1 3/8	6 7/8	6 1/2	2 1/4	3 3/4	1 5/16	4	4
2 15/16	6 7/16	6 7/16	1 1/2	7 1/2	6 15/16	2 7/16	4	1 7/16	4	4
3 3/16	7 1/8	7 1/8	1 5/8	8 1/4	7 5/8	2 5/8	4 1/2	1 1/2	4	4
3 7/16	7 9/16	7 9/16	1 3/4	8 3/4	8 1/16	2 13/16	4 3/4	1 5/8	4	4
3 11/16	8	8	1 7/8	9 3/8	8 1/2	3	5	1 3/4	4	4
3 15/16	8 3/4	8 3/4	2	10	9 1/4	3 1/4	5 1/2	1 7/8	4	4
4 7/16	9 5/8	9 5/8	2 1/4	11 1/4	10 1/8	3 5/8	6	2 1/8	4	4
4 15/16	10 1/2	10 1/2	2 1/2	12 1/2	11	4	6 1/2	2 1/4	4	4
5 7/16	11 5/8	11 5/8	2 3/4	13 3/4	12 1/8	4 3/8	7 1/4	2 3/8	4	4
5 15/16	12 3/4	12 3/4	3	15	13 1/4	4 3/4	8	2 9/16	4	4
6 7/16	13 3/8	13 3/8	3 1/4	16 1/4	13 7/8	5 1/8	8 1/4	2 3/4	4	4
6 15/16	14 1/8	14 1/8	3 1/2	17 1/2	14 5/8	5 5/8	8 1/2	3 3/16	4	4

Standard Friction Clutch Couplings

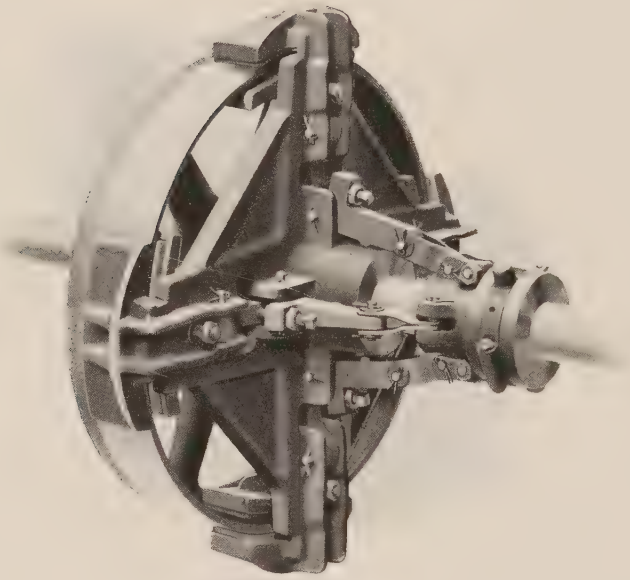


Fig. 45629. (*Vasilipot*)

Our Standard Friction Clutch, as shown above, is of a well known type, readily adjusted and understood by unskilled mechanics. The friction shoes are of wood, gripping both sides of the iron friction ring. For very high speeds we can furnish shoes of fibre, which have slightly greater capacity and will not char from the heat while the clutch is slipping, in starting the load. Wood shoes are entirely satisfactory up to a rubbing speed of 3000 feet per minute (rim speed of the friction ring).

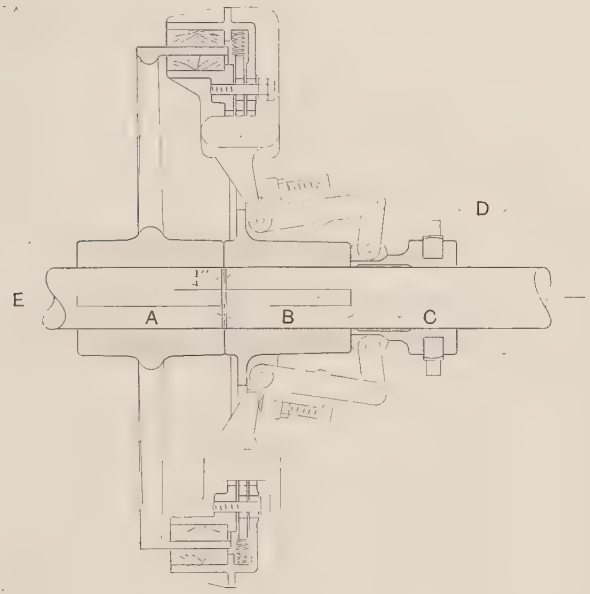
Dimensions and price list are given on the next page.

List of repair parts is given on pages 722 to 725.

Price list of Standard Friction Clutch Pulleys on pages 333 to 343.

Standard Friction Clutches can be furnished with extended sleeves. See pages 724 and 725.

Standard Friction Clutch Couplings



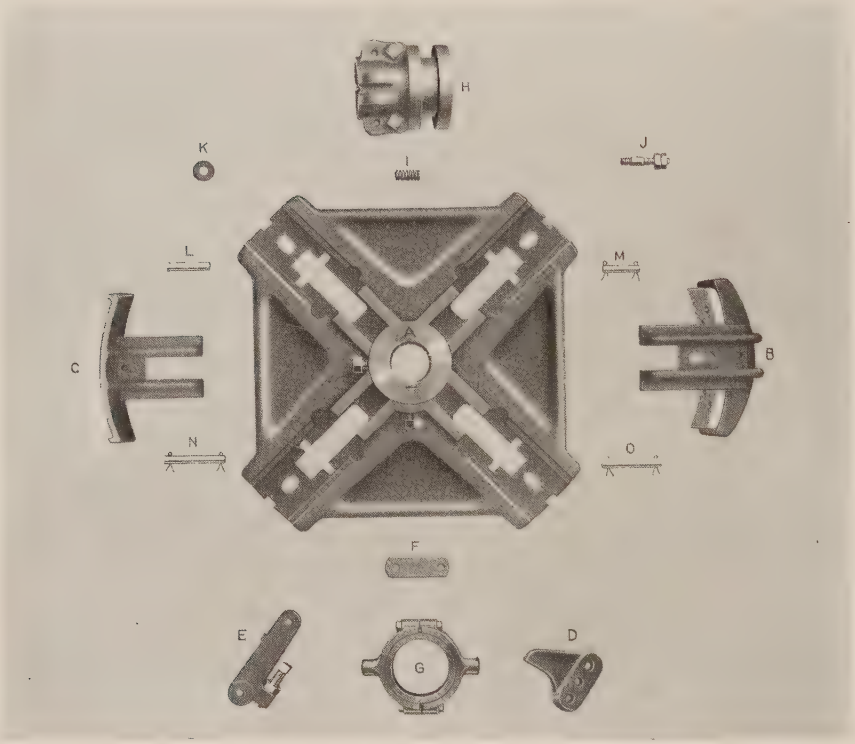
Price List, Subject to Discount

Dia. of C'p-ling Ins.	Prices		H.P. at 100 R.P.M.	Max. Std. Bore Ins.	Equal to Shaft	INCHES				Diam. Open E Ins.	Ship-ping Weight	CODE WORD	
	Solid	Split				A	B	C	D			Clutch	Ring
†12	$45.00	$49.00	5	$2\frac{15}{16}$	$1\frac{7}{16}$	$3\frac{1}{4}$	3	$5\frac{1}{2}$	$1\frac{3}{4}$	$15\frac{1}{4}$	75	Buck	Board
†15	51.00	55.00	$7\frac{1}{2}$	$3\frac{7}{16}$	$1\frac{11}{16}$	4	$3\frac{1}{2}$	$6\frac{3}{4}$	$2\frac{1}{8}$	$18\frac{1}{2}$	130	Bend	Bow
18	59.00	63.00	10	$3\frac{7}{16}$	$1\frac{15}{16}$	5	$4\frac{1}{4}$	$7\frac{5}{8}$	$2\frac{3}{4}$	21	196	Back	Bite
20	67.00	73.00	15	$3\frac{15}{16}$	$2\frac{3}{16}$	$6\frac{1}{4}$	5	$7\frac{3}{8}$	$2\frac{1}{4}$	$23\frac{1}{2}$	251	Bail	Bond
22	75.00	83.00	20	$3\frac{15}{16}$	$2\frac{7}{16}$	$6\frac{3}{4}$	$5\frac{5}{8}$	$8\frac{1}{8}$	3	26	314	Band	Box
24	88.00	96.00	24	$4\frac{7}{16}$	$2\frac{11}{16}$	7	$6\frac{1}{8}$	$8\frac{3}{8}$	3	28	409	Bank	Book
28	110.00	120.00	35	$4\frac{15}{16}$	$2\frac{15}{16}$	$7\frac{3}{4}$	$6\frac{3}{4}$	$8\frac{1}{4}$	$2\frac{3}{4}$	$32\frac{1}{4}$	554	Bare	Bone
32	140.00	154.00	55	$4\frac{15}{16}$	$3\frac{7}{16}$	$8\frac{7}{8}$	$7\frac{1}{4}$	$9\frac{1}{8}$	$3\frac{1}{2}$	37	684	Bark	Bound
36	172.00	188.00	75	$5\frac{7}{16}$	$3\frac{11}{16}$	$9\frac{1}{2}$	$7\frac{3}{4}$	$10\frac{1}{8}$	$3\frac{1}{4}$	42	890	Barley	Brake
*36	232.00	250.00	100	$5\frac{7}{16}$	$4\frac{3}{16}$	$9\frac{1}{2}$	$7\frac{3}{4}$	$10\frac{1}{8}$	$3\frac{1}{4}$	42	1057	Bath	Brick
40	208.00	228.00	90	$5\frac{7}{16}$	$3\frac{15}{16}$	$10\frac{3}{8}$	$8\frac{1}{4}$	$10\frac{1}{2}$	$3\frac{5}{8}$	46	1180	Bay	Berry
*40	276.00	300.00	125	$5\frac{7}{16}$	$4\frac{7}{16}$	$10\frac{3}{8}$	$8\frac{1}{4}$	$10\frac{1}{2}$	$3\frac{5}{8}$	46	1428	Bam	Boo
48	298.00	328.00	150	$6\frac{15}{16}$	$4\frac{11}{16}$	$11\frac{1}{2}$	$9\frac{1}{4}$	$10\frac{1}{4}$	$3\frac{1}{4}$	$55\frac{1}{2}$	1701	Bed	Bug
*48	390.00	424.00	225	$6\frac{15}{16}$	$5\frac{7}{16}$	$11\frac{1}{2}$	$9\frac{1}{4}$	$10\frac{1}{4}$	$3\frac{1}{4}$	$55\frac{1}{2}$	2050	Bell	Boy

Clutches marked * have six arms. Clutches marked † have three arms.

The Code Word for the coupling is a compound word. When the entire word is used, it means a complete coupling; when the ring or clutch is wanted only, use only that part of the word under the proper heading.

Repairs for Standard Friction Clutch



A	Spider.	E	Adjusting Lever.	I	Spring.	M	Jaw Pin.
B	Outside Jaw.	F	Link.	J	Stud.	N	Link Pin.
C	Inside Jaw.	G	Yoke.	K	Washer.	O	E Lever Pin.
D	Fulcrum Lever.	H	Cone.	L	Fulcrum Pin.		

The parts for Standard Friction Clutches are made interchangeable with like parts, and it is not necessary to return the old part to have it duplicated. Repair parts are lettered in accordance with the cut above, and are numbered according to the size of clutch.

In ordering repair parts, give the size of clutch, diameter of shaft and letter for the part wanted.

For schedule of sizes of Cones, Yokes, Forks and Links used with various sizes and bores of clutches, see page 725.

Price list of Repair Parts on the following pages.

Standard Friction Clutch Repair Parts

Price List, Subject to Discount

MECHANISM				RING	SPIDER		Additional Prices for Splitting Mechanism, Ring or Spider	WOOD SHOES	
Diam. of Clutch	No. of Arms	Max. Bores	Price Each	Price Each	Price Each	CODE WORD		Price per Pair	CODE WORD
12	3	$2\frac{15}{16}$	$36.00	$14.70	$24.00	Lugarote	$ 2.00	$0.55	Lugdunense
15	3	$3\frac{7}{16}$	41.00	15.20	26.50	Lugdunum	2.00	.60	Lugentia
18	4	$3\frac{7}{16}$	48.20	16.70	29.30	Latinizo	2.20	.65	Latnagels
20	4	$3\frac{15}{16}$	55.10	18.60	33.20	Latinizza	3.30	.70	Latobrigi
22	4	$3\frac{15}{16}$	62.00	20.50	37.00	Latinkjes	4.40	.75	Latobrigos
24	4	$4\frac{7}{16}$	72.40	24.40	43.60	Latinorum	4.40	.80	Latomiae
28	4	$4\frac{15}{16}$	90.50	30.50	54.50	Latinos	5.50	.90	Latonera
32	4	$4\frac{15}{16}$	115.50	38.50	69.30	Latinuccio	7.70	1.00	Latonico
36	4	$5\frac{7}{16}$	141.60	56.90	85.20	Latipedem	8.80	1.15	Latonigena
36	6	$5\frac{7}{16}$	189.20	56.90	114.20	Latipedis	*10.80	1.15	Latonpolis
40	4	$5\frac{7}{16}$	171.40	68.20	103.00	Latirostro	11.00	1.40	Laticlavos
40	6	$5\frac{7}{16}$	225.00	68.20	135.00	Latiseptae	*15.00	1.40	Latieramos
48	4	$6\frac{15}{16}$	245.90	96.30	147.50	Latissimo	16.50	1.65	Latierboom
48	6	$6\frac{15}{16}$	318.70	96.30	191.50	Latitancy	*20.50	1.65	Latierpaal

*These prices are for Mechanisms and Spiders only, as splitting price for four and six arm Clutch Rings is the same.

For Code for Mechanism and Ring see page 721.

To facilitate removal of inside Jaws we recommend Split Rings.

Wood Shoes should always be ordered in pairs.

Rivets furnished only when specified, free of charge.

Dia. of Clutch	B JAW		C JAW		D LEVER		E LEVER	
	Price	CODE WORD	Price	CODE WORD	Price	CODE WORD	Price	CODE WORD
12	$ 1.60	Lugmark	$1.40	Lugubre	$0.30	Lugueza	$0.45	Luhith
15	2.00	Lugubrant	1.60	Lugubris	.40	Lugworm	.55	Luidkeels
18	2.40	Leggessimo	1.80	Legibilis	.50	Legislador	.65	Legitavero
20	2.80	Leggevate	2.00	Legibility	.65	Legislamos	.75	Legitimacy
22	3.30	Leggiadria	2.20	Legibilium	.80	Legislaron	.90	Legitimate
24	3.70	Leggiadro	2.50	Legiferos	1.00	Legislator	1.10	Legitime
28	4.50	Leggiaio	3.30	Legionario	1.30	Legislativ	1.45	Legitimism
32	6.00	Leggiate	3.95	Legioned	1.55	Legisseide	1.80	Legitimos
36	7.80	Leggibile	4.50	Legionense	2.45	Legistico	2.70	Legiuncula
40	9.50	Leggitore	5.40	Legionibus	3.00	Legitabit	3.40	Legkaart
48	12.90	Leggiuzzo	8.50	Legioning	4.45	Legitandos	5.40	Legkaarten

E. S. Levers are used over Bolt Lugs on Split Clutches.

Standard Friction Clutch Repair Parts

Price List Continued, Subject to Discount

THREE-LUG CONES

Size	Price	CODE WORD
112	$5.00	Lugduni
115	5.25	Lugeant

FOUR-LUG CONES

Size	Price	CODE WORD
H A	$ 3.30	Legnaccio
H B	3.40	Legnaiuolo
H C	3.95	Legnasti
H D	4.55	Legnato
H E	4.80	Legnerello
H F	5.05	Legnerete
H G	5.35	Legnipede
H J	5.70	Legniperda
H K	6.15	Legnosetto
H L	6.65	Legnosita
H M	7.15	Legnotide
H N	7.50	Legonas
H O	7.90	Legonidec
H P	8.10	Legoulon
6 H	8.40	Legouzie
7 H	8.90	Legpenning
8 H	9.35	Legrabais
9 H	9.85	Legracao
10 H	10.30	Legracasco
11 H	11.30	Legranzi
12 H	12.40	Legaturina
13 H	13.60	Legaturos
14 H	15.00	Legatuzzo
16 H	17.15	Legaverat

SIX-LUG CONES

Size	Price	CODE WORD
6 H	$ 8.90	Legerbed
7 H	9.45	Legerbijl
8 H	9.85	Legerbode
10 H	11.00	Legerbrood
11 H	12.15	Legerdief
12 H	13.20	Legerete
13 H	14.35	Legereuse
14 H	15.60	Legerhooft
16 H	18.25	Legerity

FORKS

Size	Price	CODE WORD
A	$ 3.90	Leisesten
B	3.90	Leistbar
C	3.90	Leistchen
D	4.45	Leistes
3	4.45	Leistleine
4	4.45	Leistung
5	5.55	Leistungen
6	5.55	Leisurable
7	6.10	Leisurely
8	6.10	Leitarao
9	6.10	Leitband
10	7.25	Leitbarer
11	7.25	Leiterbaum
12	7.75	Leiterlein
13	7.75	Leitertanz
14	8.35	Leitfaden
S 13	8.35	Luikgaten

YOKES

Size	Price	CODE WORD
G A	$ 2.05	Leitseilen
G B	2.20	Leitstern
G C	2.35	Leittoenen
G D	2.50	Leitton
G 3	2.75	Leiupere
G 4	3.00	Leiworm
G 5	3.25	Leiwormen
G 6	3.50	Lejania
G 7	3.75	Lekbier
G 8	4.00	Lekhonig
G 9	4.25	Lekkage
G 10	4.60	Lekkerbek
G 11	4.95	Lekkerheid
G 12	5.30	Lekkerstand
G 13	5.65	Lekkertong
G 14	6.00	Lekokie
S 13	7.35	Luikhoofd

LINKS

Size	Price per Pair	CODE WORD
60	$ 0.50	Leinboden
61	.50	Leinenbast
62	.50	Leinenes
64	.50	Leinenhose
66	.50	Leinenzeug
68	.50	Leinkerie
71	.75	Lumarius
72	.75	Leinlaken
80	1.00	Leintuch
82	1.00	Lumbaris

Standard Friction Clutches with Extended Sleeves

When Standard Friction Clutches are used with pulleys and sprockets it is the usual practice to cast the clutch ring as a part of the pulley or sprocket wheel. Where the clutches are used with gears or small sprockets, etc., an extended sleeve on the clutch ring, babbitted or brass bushed, can be used, on which the pulley or gear can be mounted and keyed in place.

Outside diameters of sleeves are given in the table at the bottom of page 725.

Prices of clutches with extended sleeves quoted on application.

Cones, Yokes, Forks and Links Used With Various Sizes and Bores

Size of Clutch and Bore	Cone	Yoke and Fork	Link
12	$1\frac{7}{16}$ to $2\frac{15}{16}$	112	G 5	58
15	$1\frac{7}{16}$ to $3\frac{7}{16}$	115	G 7	59
18	$1\frac{11}{16}$	A	A	62
	$1\frac{15}{16}$	B	B	62
	$2\frac{3}{16}$	C	C	62
	$2\frac{7}{16}$	D	D	60
	$2\frac{11}{16}$	G	5	61
	$2\frac{15}{16}$	J	5	61
	$3\frac{3}{16}$	K	6	61
	$3\frac{7}{16}$	L	7	61
20	$1\frac{15}{16}$	B	B	62
	$2\frac{3}{16}$	C	C	62
	$2\frac{7}{16}$	D	D	60
	$2\frac{11}{16}$	G	5	61
	$2\frac{15}{16}$	J	5	61
	$3\frac{3}{16}$	K	6	61
	$3\frac{7}{16}$	L	7	61
	$3\frac{11}{16}$	M	8	61
	$3\frac{15}{16}$	N	9	61
22	$1\frac{15}{16}$	B	B	64
	$2\frac{3}{16}$	C	C	64
	$2\frac{7}{16}$	D	D	64
	$2\frac{11}{16}$	G	5	61
	$2\frac{15}{16}$	J	5	61
	$3\frac{3}{16}$	K	6	61
	$3\frac{7}{16}$	L	7	61
	$3\frac{11}{16}$	M	8	61
	$3\frac{15}{16}$	N	9	61
24	$2\frac{3}{16}$	E	3	68
	$2\frac{7}{16}$	F	4	68
	$2\frac{11}{16}$	G	5	68
	$2\frac{15}{16}$	J	5	68
	$3\frac{3}{16}$	K	6	68
	$3\frac{7}{16}$	L	7	66
	$3\frac{11}{16}$	M	8	66
	$3\frac{15}{16}$	N	9	66
	$4\frac{7}{16}$	O	10	66
28	$2\frac{7}{16}$	F	4	68
	$2\frac{11}{16}$	G	5	68
	$2\frac{15}{16}$	J	5	68
	$3\frac{3}{16}$	K	6	68
	$3\frac{7}{16}$	L	7	68
	$3\frac{11}{16}$	M	8	68
	$3\frac{15}{16}$	N	9	68
	$4\frac{7}{16}$	O	10	66
	$4\frac{15}{16}$	P	11	66
32	$2\frac{7}{16}$	6	6	72
	$2\frac{11}{16}$	6	6	72
	$2\frac{15}{16}$	6	6	72
	$3\frac{3}{16}$	7	7	72
	$3\frac{7}{16}$	8	8	72
	$3\frac{11}{16}$	9	9	72
	$3\frac{15}{16}$	10	10	72
	$4\frac{7}{16}$	11	11	71
	$4\frac{15}{16}$	12	12	71
36	$2\frac{15}{16}$	6	6	72
	$3\frac{3}{16}$	7	7	72
	$3\frac{7}{16}$	8	8	72
	$3\frac{11}{16}$	9	9	72
	$3\frac{15}{16}$	10	10	72
	$4\frac{7}{16}$	11	11	72
	$4\frac{15}{16}$	12	12	72
	$5\frac{7}{16}$	13	13	72
40	$3\frac{7}{16}$	10	10	80
	$3\frac{15}{16}$	10	10	80
	$4\frac{7}{16}$	11	11	80
	$4\frac{15}{16}$	12	12	80
	$5\frac{7}{16}$	13	13	80
48	$3\frac{15}{16}$	10	10	80
	$4\frac{7}{16}$	11	11	80
	$4\frac{15}{16}$	12	12	80
	$5\frac{7}{16}$	13	13	80
	$5\frac{15}{16}$	14	14	80
	$6\frac{1}{2}$	16	S 13	82
	$6\frac{15}{16}$	16	S 13	82

Outside Diameters of Sleeves for Standard Friction Clutches

See Note on Opposite Page

Size of Clutch	12	15	18	20	22	24	28	32	36 4-A	40 4-A	36 6-A	40 6-A	48 4-A	48 6-A
Diam. of Shaft, Inches	OUTSIDE DIAMETER OF SLEEVE, INCHES													
$1\frac{7}{16}$	$3\frac{7}{16}$	$3\frac{7}{16}$	$3\frac{7}{16}$	$3\frac{11}{16}$	.....	.....	.....	.....	.....	.....	.....	.....	.....	
$1\frac{5}{8}$–$1\frac{15}{16}$	$3\frac{11}{16}$	$3\frac{11}{16}$	$3\frac{11}{16}$	$3\frac{15}{16}$	$4\frac{7}{16}$	$4\frac{7}{16}$	$4\frac{15}{16}$	$4\frac{15}{16}$	.....	.....	.....	.....	.....	.....
$2\frac{1}{8}$–$2\frac{7}{16}$	$3\frac{15}{16}$	$3\frac{15}{16}$	$3\frac{15}{16}$	$4\frac{7}{16}$	$4\frac{15}{16}$	$4\frac{15}{16}$	$5\frac{7}{16}$	$5\frac{7}{16}$	$5\frac{15}{16}$	$5\frac{15}{16}$	$6\frac{1}{2}$	$6\frac{1}{2}$	.....	.....
$2\frac{5}{8}$–$2\frac{15}{16}$	$4\frac{7}{16}$	$4\frac{7}{16}$	$4\frac{7}{16}$	$4\frac{15}{16}$	$5\frac{7}{16}$	$5\frac{7}{16}$	$5\frac{15}{16}$	$5\frac{15}{16}$	$6\frac{1}{2}$	$6\frac{1}{2}$	7	7	$7\frac{1}{2}$	$7\frac{1}{2}$
$3\frac{1}{8}$–$3\frac{7}{16}$	.....	$4\frac{15}{16}$	$4\frac{15}{16}$	$5\frac{7}{16}$	$5\frac{15}{16}$	$5\frac{15}{16}$	$6\frac{1}{2}$	$6\frac{1}{2}$	7	7	$7\frac{1}{2}$	$7\frac{1}{2}$	8	8
$3\frac{5}{8}$–$3\frac{15}{16}$	.....	.....	.....	$5\frac{15}{16}$	$6\frac{1}{2}$	7	7	7	$7\frac{1}{2}$	$7\frac{1}{2}$	8	8	$8\frac{1}{2}$	$8\frac{1}{2}$
$4\frac{1}{8}$–$4\frac{7}{16}$	.....	.....	.....	.....	.....	7	$7\frac{1}{2}$	$7\frac{1}{2}$	8	8	$8\frac{1}{2}$	$8\frac{1}{2}$	9	9
$4\frac{5}{8}$–$4\frac{15}{16}$	.....	.....	.....	.....	.....	.....	8	8	$8\frac{1}{2}$	$8\frac{1}{2}$	9	9	$9\frac{1}{2}$	$9\frac{1}{2}$
$5\frac{1}{8}$–$5\frac{7}{16}$	.....	.....	.....	.....	.....	.....	.....	.....	9	9	$9\frac{1}{2}$	$9\frac{1}{2}$	10	10
$5\frac{5}{8}$–$5\frac{15}{16}$	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	$10\frac{1}{2}$	$10\frac{1}{2}$
$6\frac{1}{8}$–$6\frac{1}{2}$	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	11	11
7	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	$11\frac{1}{2}$	$11\frac{1}{2}$

Caldwell Expansion Friction Clutch Couplings

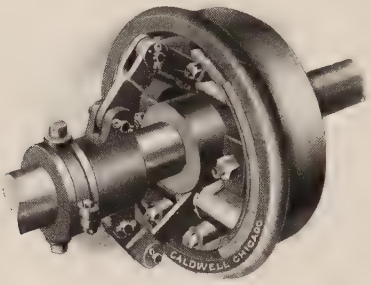
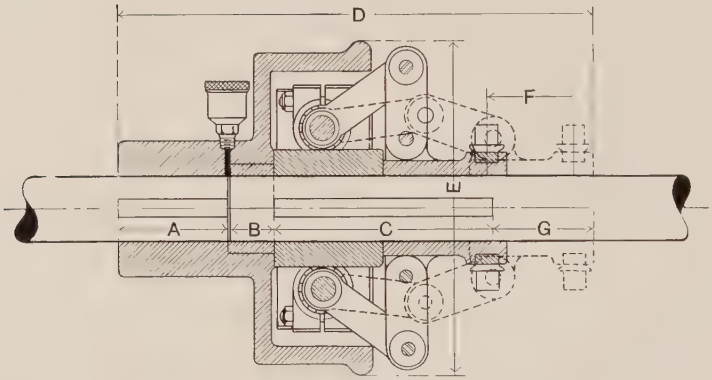


Fig. 45630. (*Acoupir*)



The Caldwell Expansion Clutch is especially adapted to use where the service is rough and severe, where the starting twist is great, and where the clutch will be in charge of unskilled operatives. The wooden friction shoes are pressed against the inside of the semi-steel case by a combination of toggle action and screw thread. The toggle links are of a special grade of bronze, and work in brass adjusting nuts, which provide for taking up the wear of the shoes with very little trouble.

Price list below covers Clutch Couplings, including levers, either Style No. 1 or No. 2. Style No. 1 Lever always furnished unless otherwise specified.

Price List, Subject to Discount

Size of Clutch, Inches	Price Each Cut-Off Coupling	CODE WORD	Horse Power at 100 R. P. M.	Maximum Bore, Inches	DIMENSIONS, INCHES						
					A	B	C	D	E	F	G
8	$100.00	Behulp	14	$2\frac{3}{16}$	$3\frac{3}{4}$	$1\frac{3}{8}$	$6\frac{3}{4}$	$14\frac{3}{8}$	10	$2\frac{3}{4}$	$2\frac{1}{4}$
10	125.00	Beides	24	$2\frac{11}{16}$	$4\frac{1}{4}$	$1\frac{5}{8}$	$8\frac{1}{2}$	19	12	$3\frac{3}{4}$	$4\frac{5}{8}$
12	150.00	Bekeek	40	$3\frac{3}{16}$	$4\frac{3}{4}$	$1\frac{7}{8}$	$9\frac{1}{2}$	$20\frac{3}{4}$	$14\frac{1}{2}$	4	$4\frac{5}{8}$
15	200.00	Belfo	70	$3\frac{11}{16}$	$5\frac{1}{4}$	$2\frac{1}{8}$	$10\frac{1}{4}$	$24\frac{1}{4}$	18	6	$6\frac{5}{8}$
18	275.00	Belial	100	$4\frac{3}{16}$	$5\frac{3}{4}$	$2\frac{3}{8}$	$11\frac{1}{2}$	$26\frac{1}{8}$	$21\frac{1}{2}$	$6\frac{3}{8}$	$6\frac{1}{2}$

Caldwell Expansion Friction Clutches with Sleeves

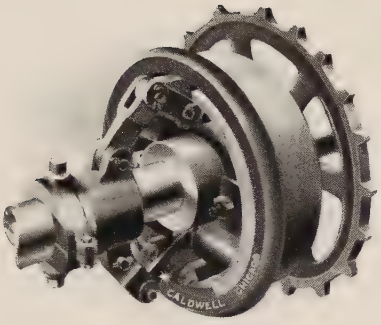


Fig. 45631. (*Acourca*)
Friction Clutch with Sprocket Wheel.

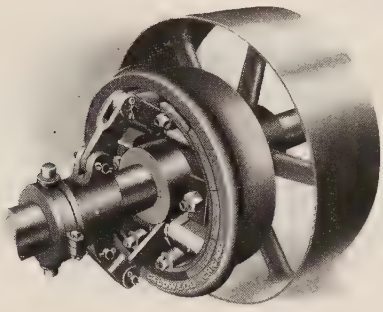


Fig. 45632. (*Acozeo*)
Friction Clutch with Pulley.

When pulleys, sprockets, etc., are to be used with Expansion Clutches, the clutch is made with an extended babbitted sleeve, on which the pulley is keyed. Outside diameter of sleeve varies with the size of clutch and diameter of shaft. See schedule of Sleeve Diameters on page 728.

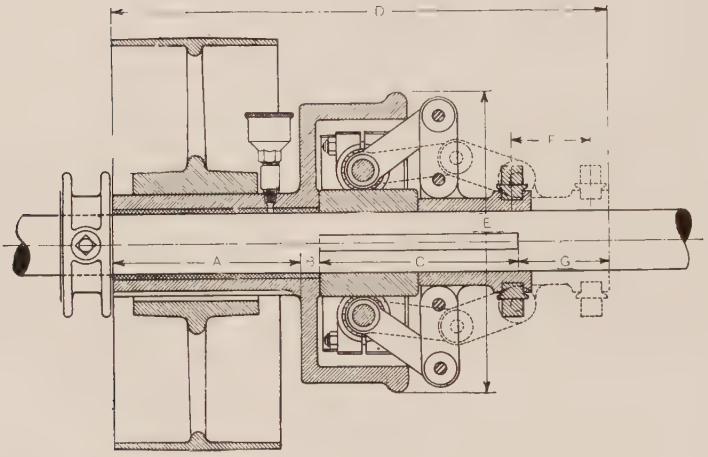
Price list below includes clutches with extended sleeves of standard length or shorter including levers, either Style No. 1 or No. 2. Style No. 1 Lever always furnished unless otherwise specified.

Price List, Subject to Discount

Size of Clutch. Inches	Price Each, with Standard Length of Sleeve	Extra Length of Sleeve, Price per Inch	CODE WORD	Standard Length of Sleeve, Inches	Maximum Bore, Inches	Horse Power at 100 R. P. M.
8	$110.00	$1.50	Luculum	6	$2\frac{3}{16}$	14
10	136.00	1.70	Lucuma	8	$2\frac{11}{16}$	24
12	162.00	2.00	Lucumon	10	$3\frac{3}{16}$	40
15	215.00	2.50	Ludicer	12	$3\frac{11}{16}$	70
18	295.00	3.00	Ludicris	14	$4\frac{3}{16}$	100

Dimensions of Expansion Clutches with Sleeves on page 728.

Caldwell Expansion Clutches with Sleeves, Continued



For price list, see page 727.

Dimensions, Inches

Size of Clutches, Inches	Maximum Bore, Inches	Standard Length of Hub	A	B	C	D	E	F	G
8	2 3/16	6	5 3/8	5/8	6 3/4	15 1/4	10	2 3/4	2 1/2
10	2 11/16	8	7 5/16	11/16	8 1/2	21 1/8	12	3 3/4	4 5/8
12	3 3/16	10	9 1/8	7/8	9 1/2	24 1/8	14 1/2	4	4 5/8
15	3 11/16	12	11 1/8	7/8	10 1/4	28 7/8	18	6	6 5/8
18	4 3/16	14	13 1/16	15/16	11 1/2	32	21 1/2	6 3/8	6 1/2

Standard Sleeve Diameters for Expansion Clutches

Diameter of Shaft, Inches	SIZE OF CLUTCH AND CORRESPONDING OUTSIDE DIAMETER OF SLEEVE				
	8 Inches	10 Inches	12 Inches	15 Inches	18 Inches
1 7/16—1 7/8	3 11/16	3 11/16	3 15/16	3 15/16	4 7/16
1 15/16—2 3/8	3 15/16	3 15/16	4 7/16	4 7/16	4 15/16
2 7/16—2 11/16	...	4 7/16	4 15/16	4 15/16	5 7/16
2 15/16—3 3/16	...	...	5 7/16	5 7/16	5 15/16
3 7/16—3 11/16	...	...	...	5 15/16	6 1/4
3 15/16—4 3/16	...	...	...	...	6 1/2

Repair Parts for the Caldwell Expansion Clutch

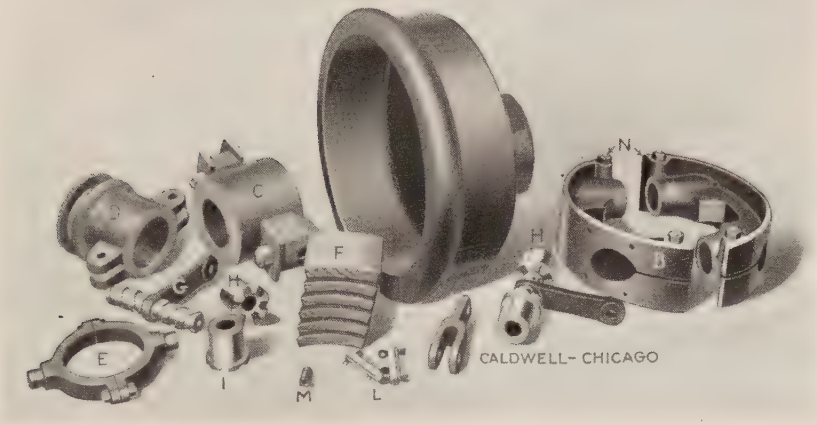


Fig. 45633. (*Ajustamos*)

In ordering repair parts, give the inside diameter of the case (size of clutch) as well as the letter for the part wanted as given in cut above. Also specify, when case is wanted, whether clutch is a cut off coupling or has sleeve cast on.

Price List, Subject to Discount

Part, Symbol and Name	CODE WORD for Part	Size of Clutch, and Code Word for Size				
		8-Inch Luifels	10-Inch Luizig	12-Inch Lukzon	15-Inch Lullus	18-Inch Lumaio
A—Semi-Steel Case	Multimodo	$18.00	$25.00	$43.00	$65.00	$90.00
B—Expander, Cast Iron, per pair	Multivago	11.00	15.00	18.00	21.00	25.00
BB—Expander, Cast Steel, per pair	Lumariarum	25.00	35.00	.....	.....	.....
C—Driving Hub	Multocular	9.00	10.00	12.00	18.00	25.00
CC—Driving Hub—Cast Steel	Lukzonnen	18.00	20.00	23.00	35.00	45.00
D—Shifting Hub	Multopere	5.50	7.25	8.00	11.00	16.50
E—Band	Mulviano	4.00	4.75	5.50	6.25	10.50
F—Maple Shoes, per Set	Mumbanda	2.00	2.15	2.50	3.00	5.50
G—Bronze Toggle Link	Mundicia	4.75	7.25	12.50	15.00	18.50
H—Brass R. H. Adjusting Nut	Mundinovi	3.60	5.50	7.00	7.75	8.50
I—Brass L. H. Adjusting Nut	Munequeria	3.60	5.50	7.00	7.75	8.50
J—Straddle Link	Munerabe	1.00	1.75	2.25	2.50	3.00
K—Pin and Cotters (to fit D)	Mungimos	.50	.60	.75	1.00	1.25
L—Pin and Cotters (to fit G)	Mungoado	.50	.60	.75	1.00	1.25
M—Spring	Muniarum	.25	.35	.35	.35	.35
N—Binding Bolt and Nut	Munifiche	.15	.20	.25	.40	.50

Cast Steel Expanders not furnished on sizes above 10 inches. Only necessary under very severe conditions.

Shifting Levers for Caldwell Expansion Clutches

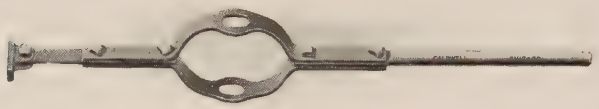


Fig. 45634. (*Aftermost*)
Style No. 1.

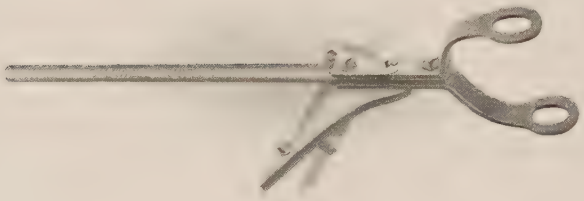
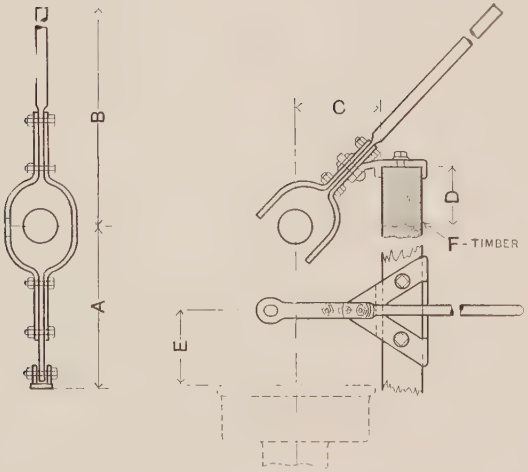


Fig. 45635. (*Afterness*)
Style No. 2.



The shifting levers illustrated herewith are used in connection with Caldwell expansion clutches, Style No. 1 being made entirely of wrought iron. Style No. 2 is made with a cast-iron fulcrum and is used exclusively for clutches in connection with ice house work. If necessary, dimensions "A" and "B" (see adjoining cut) can be made according to customer's specifications. Unless otherwise specified levers as shown will be furnished.

Price List, Subject to Discount

Size of Clutch, Inches	DIMENSIONS, INCHES						Price	CODE WORD
	A	B	C	D	E	F		
8	12	36	6	4	4	4 x 6	$10.50	Adunco
10	14	39	7½	5¼	6¼	4 x 8	15.00	Adunes
12	14	39	8	5¾	6½	4 x 8	15.00	Adutlas
15	16	51	11¼	5⅜	7½	4 x 8	20.00	Adursae
18	16	51	11½	5½	8¼	4 x 8	20.00	Adursos

The Caldwell Double Disc Friction Clutch Coupling

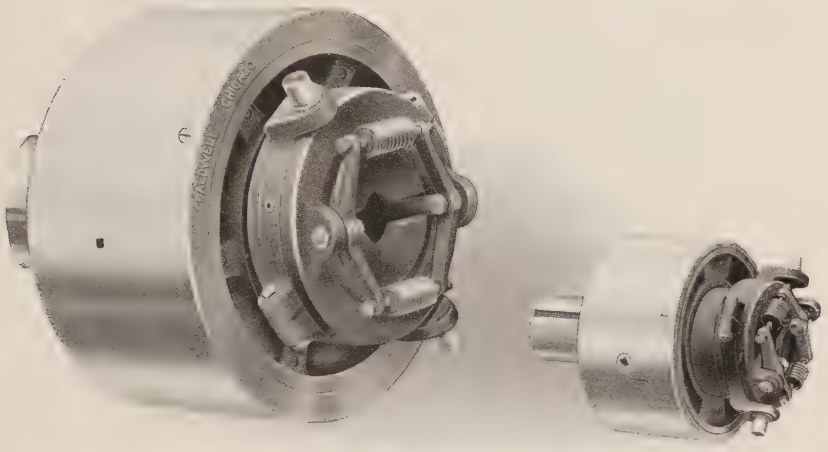


Fig. 45636. (*Landreisen*)

The Caldwell Double-Disc Friction Clutch is a high grade clutch suitable for severe service and satisfactory in unusual cases where the ordinary clutch will not operate. The mechanism is shown more in detail in the line drawings on the following pages, and in the cut of Repair Parts. The friction plates are cast iron, fitted with cork inserts, and are forced apart against the walls of the case by a toggle action. Adjustment is provided in two ways—through adjusting nuts on the springs on the shifting hub, and through the fact that the cover, B, of the case is threaded into the case and the distance between the cover and the opposite wall can be changed.

The friction plates run in oil, and the adjustment can be so accurately made that the clutch will slip at any pre-determined load. This is especially desirable where it is necessary to protect a machine from overloading. The slippage can occur for some little time without injury to the clutch.

The clutch is finished all over and carefully balanced. It is particularly adapted for high speeds. Springs are provided which prevent any dragging of the friction plates against the case when the clutch is thrown out.

Double-Disc Clutches are made both as couplings and with extended sleeves, on which pulleys, gears, etc., can be mounted. Price lists are given on the following pages.

Dust-Proof Double-Disc Friction Clutch

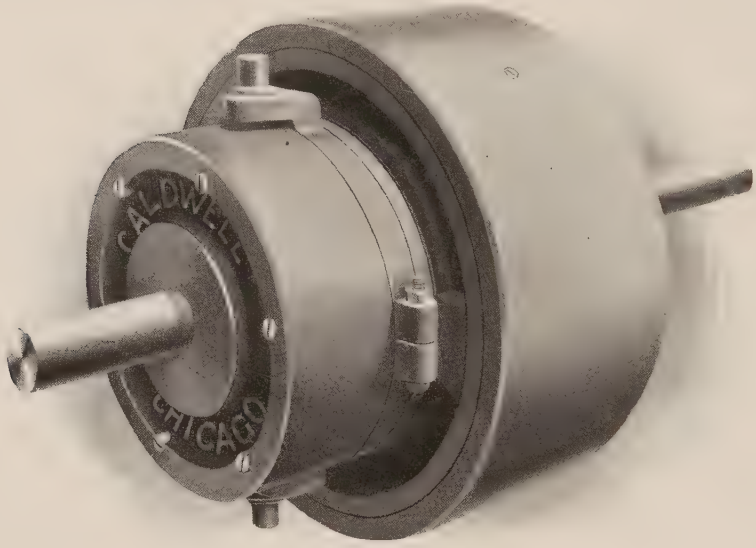


Fig. 45637. (*Chylifero*)

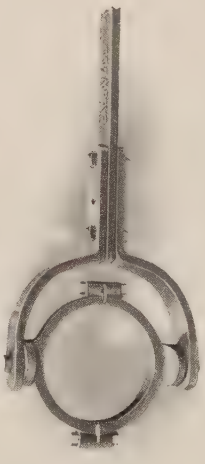
While the regular Double-Disc Clutch is almost completely enclosed, it is sometimes desirable in installations in very dusty places to make the clutch Dust Proof. Guards are placed over the adjusting springs and levers, and to prevent the dust from reaching the inside of the clutch. The mechanism is the same as that of the regular clutch. The friction discs have cork inserts and run in oil.

Prices for Dust Proof Double-Disc Clutches will be quoted on application.

Stub Shifting Levers

Style No. 1. Fig. 45638. (*Lavotear*)

Stub Shifting Levers, without extensions, are furnished with Double-Disc Clutches. Style No. 1 always furnished unless otherwise specified.



Style No. 2.
Fig. 45639. (*Lavoura*)

Special Shifting Devices

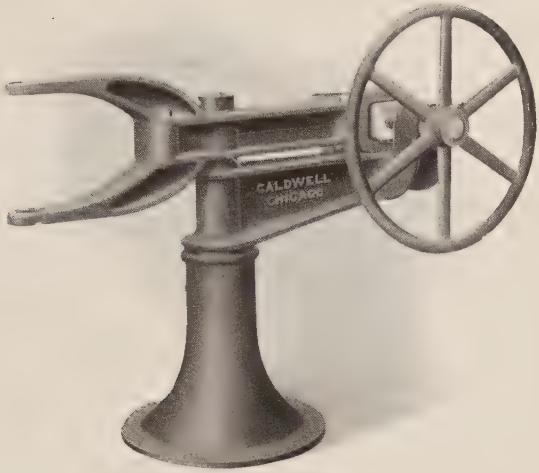


Fig. 45640. (*Landreras*)

For large clutches it is often necessary to use one of the special shifting devices shown on this page. They are more convenient than the ordinary lever, and particularly suitable where the clutch is so placed that a lever cannot be easily operated. Prices upon application.

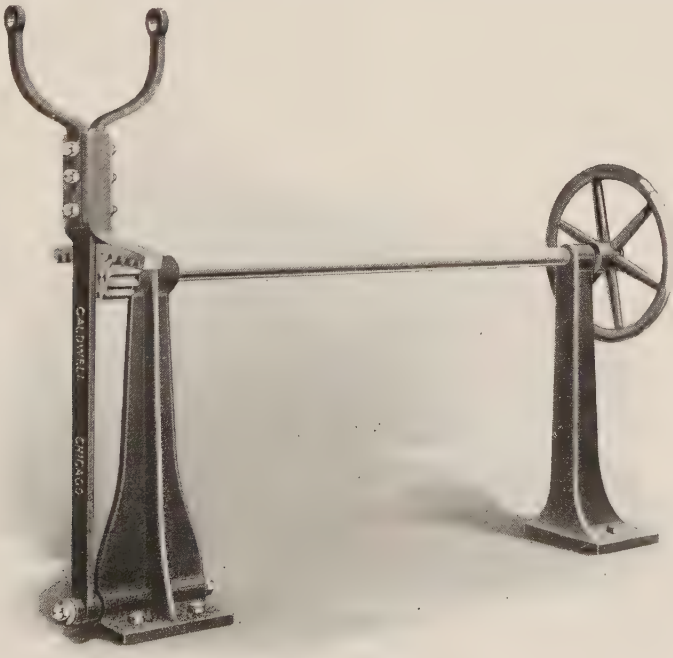
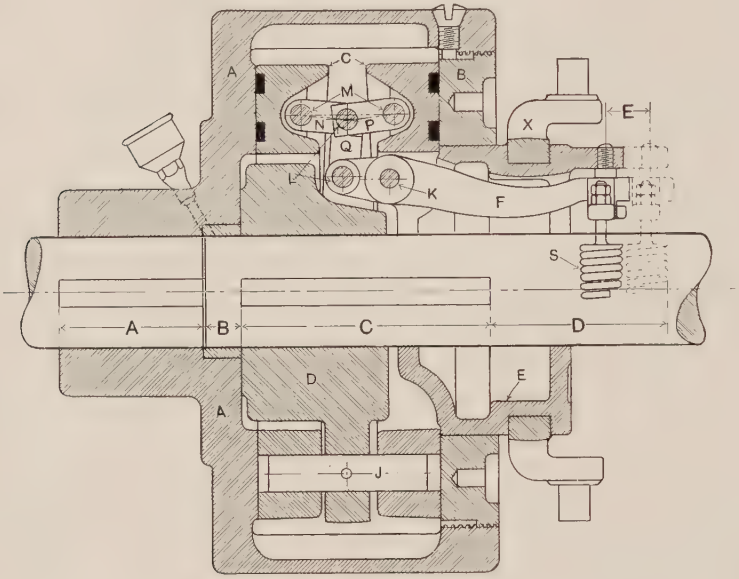


Fig. 45641. (*Lawlessly*)

Caldwell Double-Disc Friction Clutch Cut-off Couplings

Nos. 1 to 5 with Friction Plates Fitted with Cork Inserts



Price List, Subject to Discount

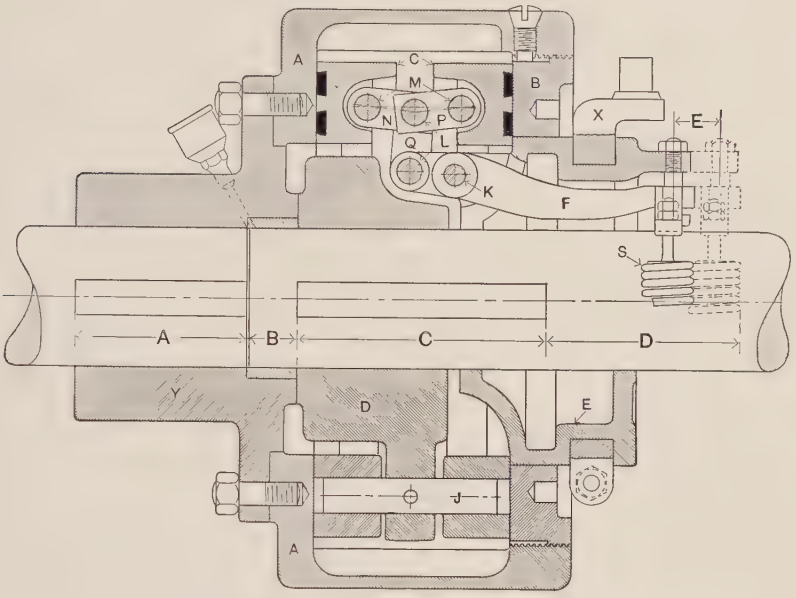
No. of Coupling	Horsepower at 100 R. P. M.	Largest Diameter Std. Clutch Will Bore, Inches	Will Transmit Full H. P. of Shaft, Inches	Outside Diam. of Clutch, Inches	Total Space on Shaft, Inches	Price	CODE WORD
1-C	1½	1 11/16	15/16	7⅜	9½	$ 60.00	Church
2-C	3	1 15/16	1 3/16	8⅝	10¼	75.00	Churchdom
3-C	5	2 3/16	1 7/16	10⅛	11¼	90.00	Churched
4-C	8	2 11/16	1 11/16	11¾	13½	110.00	Churching
5-C	12	3 3/16	1 15/16	13½	15	125.00	Churchism

The above prices include stub levers, either Style No. 1 or No. 2, page 732. Style No. 1 will be furnished unless otherwise specified. We do not include extension levers, as the lengths of these vary to suit the circumstances.

No. of Coupling	DIMENSIONS, INCHES				Movement of Cone, E, Inches
	A	B	C	D	
1-C	2 3/16	9/16	3¼	3½	15/16
2-C	2⅜	⅝	3¾	3½	⅞
3-C	2½	¾	4¼	3¾	1
4-C	3 1/16	15/16	5¼	4¼	1⅛
5-C	3⅝	1⅛	5¾	4½	1⅛

Caldwell Double-Disc Friction Clutch Cut-off Couplings

Nos. 6 to 12 with Friction Plates Fitted with Cork Inserts



Price List, Subject to Discount

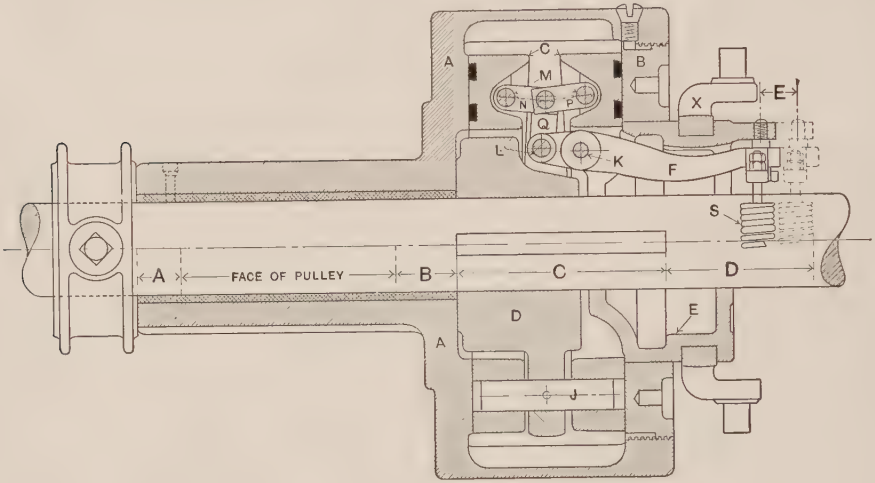
No. of Coupling	Horsepower at 100 R. P. M.	Largest Diam. Std. Clutch Will Bore, Inches	Will transmit Full H. P. of Shaft, Inches	Outside Diam. of Clutch, Inches	Total Space on Shaft, Inches	Price	CODE WORD
6-C	16	$3\frac{11}{16}$	$2\frac{3}{16}$	$14\frac{7}{8}$	$16\frac{1}{2}$	$140.00	Churchless
7-C	22	$4\frac{3}{16}$	$2\frac{7}{16}$	$16\frac{3}{8}$	$18\frac{3}{4}$	170.00	Churchman
8-C	35	$5\frac{3}{16}$	$2\frac{11}{16}$	$19\frac{3}{4}$	$22\frac{3}{4}$	215.00	Churchship
9-C	60	$6\frac{1}{2}$	$3\frac{3}{16}$	$24\frac{1}{4}$	$25\frac{3}{4}$	300.00	Churchyard
10-C	90	$7\frac{1}{2}$	$3\frac{11}{16}$	$27\frac{1}{4}$	$28\frac{1}{4}$	425.00	Churl
11-C	150	$8\frac{1}{2}$	$4\frac{7}{16}$	$31\frac{3}{4}$	$31\frac{3}{4}$	600.00	Churlish
12-C	225	$9\frac{1}{2}$	$5\frac{3}{16}$	$36\frac{1}{4}$	$35\frac{1}{4}$	800.00	Churlishly

The above prices include stub levers, either Style No. 1 or No. 2, page 732. Style No. 1 will be furnished unless otherwise specified. We do not include extension levers, as the lengths of these vary to suit the circumstances.

No. of Coupling	DIMENSIONS, INCHES				Movement of Cone E, Inches
	A	B	C	D	
6-C	4	$1\frac{5}{16}$	$6\frac{1}{4}$	$4\frac{15}{16}$	$1\frac{3}{16}$
7-C	$4\frac{13}{16}$	$1\frac{7}{16}$	7	$5\frac{1}{2}$	$1\frac{5}{16}$
8-C	$5\frac{7}{8}$	$1\frac{3}{4}$	$7\frac{3}{4}$	$7\frac{1}{8}$	$1\frac{1}{2}$
9-C	$6\frac{3}{8}$	$2\frac{1}{4}$	$8\frac{1}{2}$	$8\frac{5}{8}$	$1\frac{3}{4}$
10-C	$6\frac{3}{4}$	$2\frac{3}{4}$	$9\frac{1}{2}$	$9\frac{1}{4}$	$2\frac{1}{8}$
11-C	$7\frac{3}{4}$	3	11	10	$2\frac{3}{16}$
12-C	$8\frac{3}{4}$	$3\frac{1}{2}$	$12\frac{3}{8}$	$10\frac{5}{8}$	$2\frac{7}{8}$

Caldwell Double-Disc Friction Clutches

Nos. 1 to 5 with Sleeves and with Friction Plates Fitted with Cork Inserts



We furnish these clutches complete with Pulleys, Gears, Rope Sheaves, Sprocket Wheels, etc., as required; or we supply the clutches with Extension Sleeves, as illustrated, of lengths and diameters here listed, turned on the outside to receive Pulleys, Wheels, etc.

Price List, Subject to Discount

No. of Clutch	Horse-power at 100 R.P.M.	Largest Diam. Std. Clutch Will Bore, Inches	SLEEVE		Outside Diam. of Clutch, Inches	Total Space on Shaft, Inches	CODE WORD	PRICES	
			Largest Outside Diam., Inches	Standard Length, Inches				Clutch with Sleeve of Stand. Length.	Extra length of Sleeve, Per In.
1-C	1½	1 11/16	2 11/16	5¾	7⅜	12½	Chusco	$ 65.00	$0.85
2-C	3	1 15/16	3 3/16	6¾	8⅝	14	Chusmas	81.00	.95
3-C	5	2 3/16	3 11/16	8	10⅛	16	Chuspa	97.00	1.05
4-C	8	2 11/16	4 7/16	9¼	11¾	18¾	Chutant	118.00	1.25
5-C	12	3 3/16	4 15/16	10½	13½	20¾	Chute	135.00	1.35

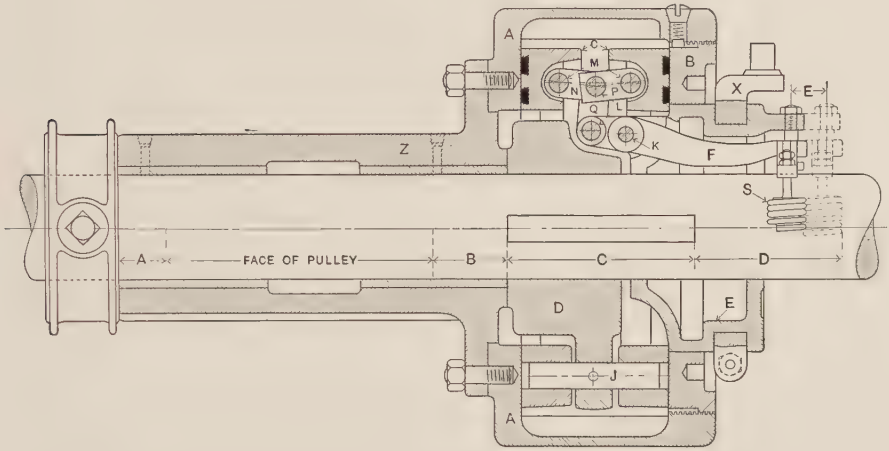
The above prices include stub levers, either Style No. 1 or No. 2, page 732. Style No. 1 will be furnished unless otherwise specified. We do not include extension levers, as the lengths of these vary to suit the circumstances.

Above prices include babbitted sleeves. If it is necessary to use brass bushings on account of extra duty or high speed, an extra charge will be made. It will be noted that the "Standard Length" of sleeve is total length, including dimensions, A, B, and assumed "Face of Pulley."

No. of Clutch	DIMENSIONS, INCHES				Movement of Cone E, Inches
	A	B	C	D	
1-C	½	1¼	3¼	3½	15/16
2-C	½	1¼	3¾	3½	⅞
3-C	⅝	1⅜	4¼	3¾	1
4-C	¾	1½	5¼	4¼	1⅛
5-C	1	1½	5¾	4½	1⅛

Caldwell Double-Disc Friction Clutches

Nos. 6 to 12 with Detachable Sleeves, and with Friction Plates Fitted with Cork Inserts



Clutches No. 6-12 are designed to be used with separable sleeves, as shown above or with Quills, Hubs of Pulleys, Wheels, etc., which are provided with the necessary flanges to be secured to the clutch cases. The details of arrangement vary so much that we list the Clutch Mechanisms separately, indicating in table of dimensions what would be standard when sleeves are used. Prices of sleeves include babbitted sleeves only. Brass Bushed Sleeves can be furnished for heavy duty at extra charge.

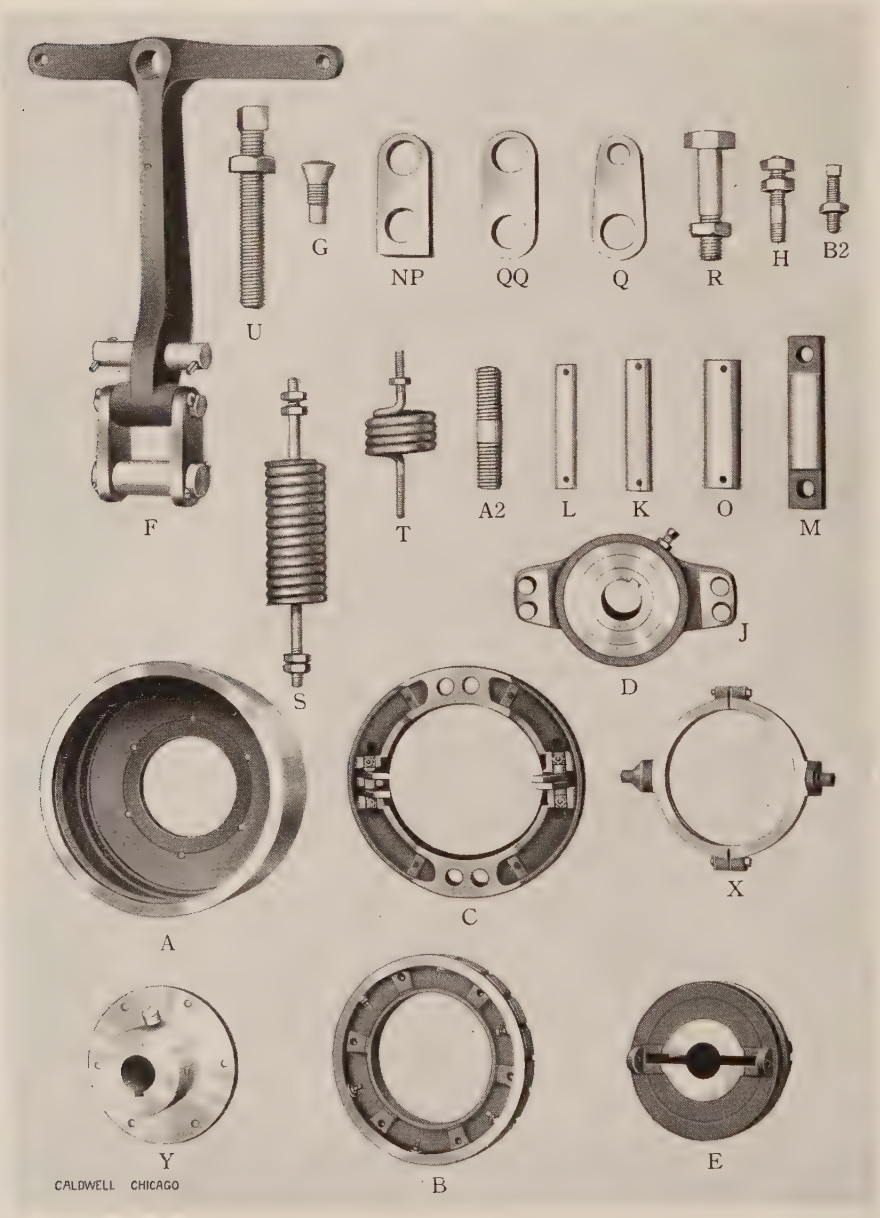
Price List, Subject to Discount

No. of Clutch	Horse-power at 100 R. P. M.	Largest Diam. Stand. Clutch Will Bore, Inches	SLEEVE		Outside Diam. of Clutch, Inches	Total Space on Shaft, Inches	PRICES			CODE WORD
			Largest Outside Diam., Inches	Standard Length, Inches			Mechanism Only, Without Sleeve	Standard Sleeves	Extra Length of Sleeve per Inch	
6-C	16	3 11/16	5 15/16	13	14 7/8	24 1/4	$130.00	$ 20.00	$1.50	Chutney
7-C	22	4 3/16	6 1/2	15 1/2	16 3/8	28	155.00	30.00	1.70	Chuveiro
8-C	35	5 3/16	8	20	19 3/4	35 1/8	195.00	40.00	2.00	Chydaer
9-C	60	6 1/2	10 3/4	26 1/4	24 1/4	43 3/8	270.00	75.00	2.55	Chydaeum
10-C	90	7 1/2	12 1/4	30 1/2	27 1/4	49 1/4	385.00	100.00	3.00	Chylaceons
11-C	150	8 1/2	13 3/4	37	31 3/4	58	540.00	150.00	3.50	Chylemoth
12-C	225	9 1/2	15 1/4	43 3/4	36 1/4	66 3/4	710.00	210.00	4.00	Chyleux

The above prices include stub levers, either Style No. 1 or No. 2, page 732. Style No. 1 will be furnished unless otherwise specified. We do not include extension levers, as the lengths of these vary to suit the circumstances.

No. of Clutch	DIMENSIONS, INCHES				Movement of Cone E, Inches
	A	B	C	D	
6-C	1 1/4	2 1/2	6 1/4	4 15/16	1 3/16
7-C	1 3/8	2 3/4	7	5 1/2	1 5/16
8-C	1 1/2	3	7 3/4	7 3/8	1 1/2
9-C	1 3/4	3 1/2	8 1/2	8 5/8	1 3/4
10-C	1 3/4	4 1/2	9 1/2	9 1/4	2 1/8
11-C	1 3/4	5 1/4	11	10	2 3/16
12-C	2	5 3/4	12 3/8	10 5/8	2 7/8

Repair Parts for Caldwell Double-Disc Friction Clutches



For description of the parts illustrated above see opposite page.

Repair Parts for Caldwell Double-Disc Friction Clutches

In ordering repair parts please give the size of the clutch and its bore, and also, if possible, the date clutch was purchased from us.

Price List, Subject to Discount

Name and Letter of Part	CODE WORD for Part	SIZE OF CLUTCH 1	2	3	4	5	6	7	8	9	10	11	12
		$	$	$	$	$	$	$	$	$	$	$	$
A—Case	Luites	32.00	38.00	45.00	51.00	58.00	65.00	76.00	110.00	130.00	180.00	250.00	500.00
B—Cover	Lukster	7.25	11.75	22.00	26.00	29.00	33.00	36.00	44.00	62.00	72.00	87.00	120.00
C—Friction plate	Luliano	12.75	14.00	15.25	16.25	22.00	29.00	33.00	40.00	62.00	72.00	126.00	180.00
D—Driver (without set screw)	Lulismo	7.25	10.00	11.25	12.75	15.00	17.00	20.00	30.00	40.00	75.00	90.00	120.00
E—Cone	Lumaca	10.00	14.50	20.00	26.00	27.00	29.00	30.50	40.00	62.00	72.00	90.00	110.00
F—Tee lever, only	Lumbago	2.00	2.35	2.55	3.25	4.00	5.50	7.00	8.50	10.00	18.00	27.00	36.00
G—Cover lock screw	Lunacy	.25	.30	.30	.40	.60	.90	1.20	1.50	1.50	2.00	2.50	3.20
H—Stud for toggle pin	Luncher	.20	.20	.20	.25	.25	.25	.30	.30	.35	.40	.45	.50
J—Driver pin	Lunette	.30	.35	.45	.55	.65	.75	.85	1.60	2.20	2.65	3.40	5.30
K—Lever pin	Lunghe	.40	.50	.60	.60	.65	.65	.75	.90	1.20	1.60	2.70	3.20
L—Connecting pin	Lungura	.40	.50	.60	.60	.65	.65	.75	.90	1.20	1.60	2.70	3.20
M—Toggle pin	Lunsjes	.75	.80	.90	1.05	1.10	1.20	1.50	2.20	3.90	4.80	5.80	7.70
O—Center connecting pin (old style)	Lunten	.40	.50	.60	.60	.65	.65	.75	.90	1.20	1.60	2.70	3.20
Q—Connecting link (old style)	Lunule	.90	1.00	1.05	1.10	1.15	2.00	2.20	2.40	2.90	4.30	4.80	7.20
R—Screw for tee lever	Luoghi	.35	.40	.45	.60	.75	.85	.95	1.05	1.80	2.00	2.25	3.00
S—Clutch spring	Lupabor	1.00	1.10	1.25	1.35	1.60	1.70	1.90	2.20	2.40	2.90	3.90	5.00
T—Releasing spring	Lupatos	1.00	1.05	1.10	1.15	1.20	1.25	1.30	1.45	1.70	2.00	2.50	3.00
U—Driver set screw	Lupatto	.20	.25	.30	.35	.40	.65	.90	1.20	1.50	1.85	2.15	2.50
X—Clutch band	Lupeggi	4.75	5.50	7.00	8.00	9.00	11.50	15.25	17.00	22.50	27.00	36.00	54.00
Y—Coupling hub or sleeve	Lupesco	...	...	...	...	...	21.75	34.50	43.25	76.00	105.00	150.00	220.00
A2—Coupling hub stud	Lupetti	...	...	...	...	...	.35	.40	.45	.60	.75	1.00	1.25
B2—Cover set screw	Lupeux	.15	.20	.25	.30	.35	.55	.75	1.00	1.40	1.70	2.00	2.25
N—Side toggle link	Lupillo	.75	.90	1.20	1.30	1.50	1.60	1.75	2.60	2.90	3.40	4.00	5.00
P—Center toggle link	Lupino	1.20	1.25	1.40	1.50	2.00	2.40	2.50	2.60	2.90	3.40	4.00	5.00
QQ—Connecting link (new style)	Lupous	.90	1.00	1.05	1.10	1.15	2.00	2.20	2.40	2.90	4.30	4.80	7.20

In telegraphing, use code word for part wanted and follow with code word for size and style of clutch from price list of clutch.

Standard Outside Diameters of Sleeves—Caldwell Double-Disc Clutches

Number of Clutch	1	2	3	4	5	6	7	8	9	10	11	12
Diameter of Shaft, Inches	Outside Diameter of Sleeve, Inches											
15/16—1 3/8	2 11/16	3 3/16	...	...	...	...	...	...	...	...	...	...
1 7/16—1 7/8	2 11/16	3 3/16	3 11/16	3 11/16	...	...	...	...	...	...	...	...
1 15/16—2 3/8	...	3 3/16	3 11/16	3 11/16	3 15/16	4 7/16	...	...	...	...	...	...
2 7/16—2 7/8	...	...	...	4 7/16	4 7/16	4 15/16	4 15/16	5 7/16	...	...	...	...
2 15/16—3 3/8	...	...	...	...	4 15/16	5 7/16	5 7/16	5 15/16	6 1/2	7	...	...
3 7/16—3 7/8	...	...	...	...	...	5 15/16	5 15/16	6 1/2	7	7 1/2	8	...
3 15/16—4 3/8	...	...	...	...	...	...	6 1/2	7	7 1/2	8	8 1/2	9 1/4
4 7/16—4 7/8	...	...	...	...	...	...	...	7 1/2	8	8 1/2	9 1/4	10
4 15/16—5 3/8	...	...	...	...	...	...	...	8	8 1/2	9 1/4	10	10 3/4
5 7/16—5 7/8	...	...	...	...	...	...	...	...	9 1/4	10	10 3/4	11 1/2
5 15/16—6 3/8	...	...	...	...	...	...	...	...	10	10 3/4	11 1/2	12 1/4
6 7/16—6 7/8	...	...	...	...	...	...	...	...	10 3/4	10 3/4	11 1/2	12 1/4
6 15/16—7 3/8	...	...	...	...	...	...	...	...	...	11 1/2	12 1/4	13
7 1/2—7 7/8	...	...	...	...	...	...	...	...	...	12 1/4	13	13 3/4
8 —8 3/8	...	...	...	...	...	...	...	...	...	...	13	13 3/4
8 1/2—8 7/8	...	...	...	...	...	...	...	...	...	...	13 3/4	14 1/2
9 —9 7/8	...	...	...	...	...	...	...	...	...	...	...	15 1/4

Finished Shafting

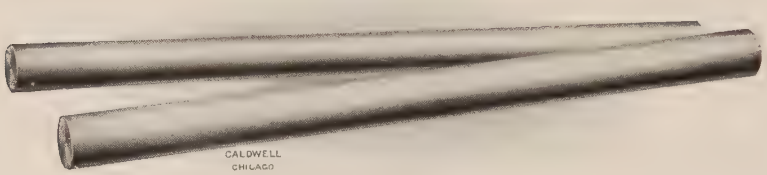


Fig. 45642. (*Lazarento*)

All shafting furnished by us is true, straight, and exactly to gauge.

Price List, Subject to Discount

Diameter of Shaft, Inches	Price Per Foot	Weight Per Foot, Pounds	CODE WORD	Diameter of Shaft, Inches	Price Per Foot	Weight Per Foot, Pounds	CODE WORD
5/8	$0.12	1.04	Captivames	2 9/16	$1.76	17.54	Ceffatella
11/16	.14	1.26	Capulanade	2 5/8	1.84	18.40	Cegatero
3/4	.17	1.50	Caramillar	**2 11/16**	**1.93**	**19.29**	Celagem
13/16	.19	1.76	Carapacho	2 3/4	2.02	20.20	Celandem
7/8	.22	2.05	Carbasorum	2 13/16	2.12	21.12	Celebramus
15/16	**.25**	**2.35**	Cattabriga	2 7/8	2.21	22.07	Celebriren
1	**.29**	**2.67**	Catulieban	**2 15/16**	**2.31**	**23.04**	Celeripes
1 1/16	.32	3.02	Caturiamo	**3**	**2.41**	**24.03**	Celerrima
1 1/8	.36	3.38	Cauchemar	3 1/8	2.74	26.08	Celheado
1 3/16	**.40**	**3.77**	Caudatario	**3 3/16**	**2.85**	**27.13**	Celiduena
1 1/4	.44	4.17	Caudicalem	3 1/4	2.97	28.21	Celotipla
1 5/16	.49	4.60	Caudisono	3 3/8	3.20	30.42	Celplanten
1 3/8	.53	5.05	Cauponius	**3 7/16**	**3.32**	**31.55**	Cempellar
1 7/16	**.58**	**5.52**	Causatrice	3 1/2	3.60	32.71	Cenagoso
1 1/2	**.62**	**6.01**	Cautivaba	3 5/8	3.86	35.09	Cencerrion
1 9/16	.68	6.52	Cavadenti	**3 11/16**	**4.00**	**36.31**	Cendradina
1 5/8	.73	7.05	Cavastoppa	3 3/4	4.13	37.55	Cenericcio
1 11/16	**.79**	**7.60**	Cavaticcio	3 7/8	4.42	40.10	Cennamella
1 3/4	.85	8.18	Cavidoso	**3 15/16**	**4.56**	**41.40**	Cennovanta
1 13/16	.91	8.77	Cavillorum	4	4.96	42.73	Cenobiarca
1 7/8	.97	9.39	Cavolinite	**4 3/16**	**5.44**	**46.83**	Cenomani
1 15/16	**1.04**	**10.02**	Cebabamos	4 1/4	5.60	48.23	Cenopegias
2	**1.10**	**10.68**	Cebasteis	4 3/8	5.93	51.11	Censitaire
2 1/16	1.17	11.36	Ceboncillo	**4 7/16**	**6.10**	**52.58**	Centaureus
2 1/8	1.25	12.06	Ceceaban	4 1/2	6.39	54.08	Chaborrita
2 3/16	**1.32**	**12.78**	Cecinaba	4 11/16	6.93	58.68	Chavetado
2 1/4	1.36	13.52	Cecobrar	4 3/4	7.11	60.25	Chacando
2 5/16	**1.43**	**14.28**	Cecuiente	**4 15/16**	**7.69**	**65.10**	Chacharita
2 3/8	1.51	15.06	Cedrelate	5	8.02	66.76	Chaconista
2 7/16	**1.59**	**15.87**	Cedrostino	**5 7/16**	**9.48**	**78.95**	Chafaldita
2 1/2	1.67	16.69	Cefalgia	**5 15/16**	**12.24**	**94.14**	Chafarrino

The sizes of shafting appearing in light face type are odd sizes; those appearing in full face type are regular sizes.

In using above code words, precede each by a number only. This will be translated to mean so many feet of shafting of diameter indicated. Thus, "Sixty Catulieban" would be translated as "Sixty feet of 1-inch shafting."

Shafting will be boxed when necessary, and charged at cost.

The above prices are for shafts from 5 to 24 feet long, inclusive.

For shafts 12 inches to 23 15/16 inches long, 3-10c per pound net extra.

For shafts 24 inches to 59 15/16 inches long, 3-20c per pound net extra.

For shafts over 24 feet long and less than 30 feet, ½c per pound net extra.

For shafts 30 feet long and less than 35 feet, 1c per pound net extra.

For shafts 35 feet long and less than 40 feet, 1½c per pound net extra.

For shafts 40 feet long and less than 45 feet, 2c per pound net extra.

For shafts 45 feet long and over, 2½c per pound net extra.

Key Seats

Price List for Keys and Key Seating Shafting

Diameter of Shaft, Inches	For Couplings Per End, Milled Ends	Key Seats, Each, One Foot Long or Less, Milled Ends	Each Additional Foot or Fraction, Milled Ends	Extra for Each Rounded End	Extra for Each Squared End	Keys Per Inch	Add for Fitting Per Key
15/16—1 7/8	$0.50	$0.75	$0.50	$0.50	.....	$0.05	$1.00
1 3/16—1 3/8	.60	1.00	.60	.50	.....	.05	1.00
1 7/16—1 7/8	.75	1.05	.75	.50	.....	.05	1.00
1 15/16—2 3/8	.85	1.10	.85	.50	.....	.05	1.15
2 7/16—2 7/8	1.00	1.25	1.00	.60	.....	.08	1.15
2 15/16—3 3/8	1.10	1.30	1.10	.75	.....	.08	1.15
3 7/16—3 7/8	1.30	1.50	1.30	1.00	.....	.10	1.30
3 15/16—4 3/8	1.50	1.80	1.50	.....	$1.50	.12	1.30
4 7/16—4 3/4	1.60	2.00	1.60	.....	1.60	.15	1.30
4 15/16—5	1.80	2.30	1.80	.....	1.75	.18	1.50
5 7/16	2.00	2.60	2.00	.....	2.40	.20	1.50
5 15/16	2.50	2.80	2.50	.....	2.50	.22	1.50

"Milled Ends" are keyseats as left by the milling cutter, as shown in lower shaft of cut.

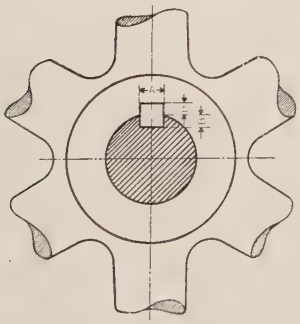
"Rounded Ends" are cut out with end mill, as shown at right on upper shaft in cut.

"Squared Ends" are chipped out square, as shown at left of upper shaft in cut.

Keys, not fitted, are square cold rolled key stock, cut off to proper length, or stock tapered keys.

Taper Keys of ordinary length are tapered 1/8-inch to the foot, and are the same dimensions, at the large end, as square keys. Keyseats in shaft are cut uniform depth, and taper is cut in the wheel.

Dimensions of Standard Key Seats



Diameter of Shaft, Inches	A Inches	B Inches	Diameter of Shaft, Inches	A Inches	B Inches
15/16—1 7/8	1/4	1/8	5 7/16—5 7/8	1 3/8	11/16
1 3/16—1 3/8	5/16	5/32	5 15/16—6 3/8	1 1/2	3/4
1 7/16—1 7/8	3/8	3/16	6 7/16—6 7/8	1 5/8	13/16
1 15/16—2 3/8	1/2	1/4	6 15/16—7 3/8	1 3/4	7/8
2 7/16—2 7/8	5/8	5/16	7 7/16—7 7/8	1 7/8	15/16
2 15/16—3 3/8	3/4	3/8	7 15/16—8 1/2	2	1
3 7/16—3 7/8	7/8	7/16	8 9/16—9 1/2	2 1/4	1 1/8
3 15/16—4 3/8	1	1/2	9 9/16—10 1/2	2 1/2	1 1/4
4 7/16—4 7/8	1 1/8	9/16	10 9/16—11 1/2	2 3/4	1 3/8
4 15/16—5 3/8	1 1/4	5/8	11 9/16—13 1/2	3	1 1/2

Horse-power Transmitted by Steel Shafting

As Prime Mover or Head Shaft, Well Supported by Bearings

$$\text{Formula} — \text{H. P.} = \frac{D^3 R}{100} \quad \text{where } D = \text{Diameter in inches.}, \; R = \text{R. P. M.}$$

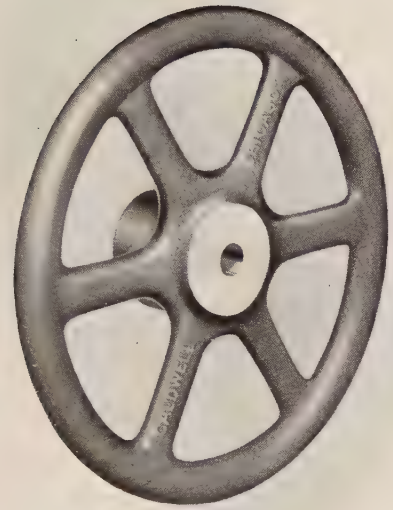
	R. P. M.											
"D"	100	125	150	175	200	250	300	350	400	450	500	550
1	1	1.2	1.5	1.7	2	2.5	3	3.5	4	4.5	5	5.5
1 1/2	3.4	4.2	5	5.9	6.7	8.4	10.1	11.8	13.5	15.2	16.9	18.5
1 1/16	4.8	6	7.2	8.4	9.6	12	14.4	16.8	19.2	22	24	26
1 15/16	7.3	9	10.9	12.7	14.5	18.2	22	25	29	33	36	40
2	8	10	12	14	16	20	24	28	32	36	40	44
2 3/16	10.5	13	15.7	18.4	21	26	31	37	42	47	52	58
2 7/16	14.5	18	22	25	29	36	43	51	58	65	72	79
2 11/16	19.4	24	29	34	39	48	58	68	77	87	97	107
2 15/16	25	32	38	44	51	63	76	89	101	114	127	139
3	27	34	40	47	54	67	81	94	108	122	135	148
3 3/16	32	40	48	56	65	81	97	113	129	145	162	178
3 7/16	41	50	61	71	81	101	122	142	162	183	203	223
3 11/16	50	63	75	88	100	125	150	176	200	226	251	276
3 15/16	61	76	91	107	122	152	183	213	244	275	305	335
4 3/16	74	92	110	128	147	184	221	251	294	331	367	404
4 7/16	88	109	132	153	175	219	263	307	350	395	438	482
4 15/16	120	151	182	212	241	302	364	424	485	545	604	667
6	216	270	323	378	431	540	648	755	863	971	1080	1190
7	343	428	515	600	859	1030	1200	...	...	...	...	...

As Second Movers or Line Shafts, Bearings 8 Feet Apart

$$\text{Formula} — \text{H. P.} = \frac{D^3 R}{70} \quad \text{where } D = \text{Diameter in inches.}, \; R = \text{R. P. M.}$$

	R. P. M.											
"D"	100	125	150	175	200	250	300	350	400	450	500	550
1	1.4	1.8	2.1	2.5	2.8	3.6	4.3	5	5.7	6.4	7.1	7.8
1 1/2	4.8	6	7.2	8.4	9.6	12	14.4	16.9	19.2	22	24	26
1 1/16	6.9	8.6	10.3	12	13.7	17.1	21	24	27	31	34	38
1 15/16	10.4	13	15.6	18.2	21	26	31	36	42	47	52	57
2	11.4	14.3	17.2	20	23	29	34	40	46	51	57	63
2 3/16	15	18.7	22	26	30	37	45	52	60	67	75	82
2 7/16	20	25	30	36	41	51	61	72	81	91	102	112
2 11/16	28	35	42	48	55	69	83	97	111	124	133	152
2 15/16	36	45	54	63	72	90	108	127	144	162	181	199
3	39	48	58	67	77	96	116	135	154	173	192	212
3 3/16	46	58	69	81	92	115	139	162	185	208	231	253
3 7/16	58	73	87	101	116	145	174	203	232	261	290	319
3 11/16	72	89	107	125	143	179	215	251	286	322	358	393
3 15/16	87	109	131	152	174	218	251	305	349	392	436	480

Hand Wheels



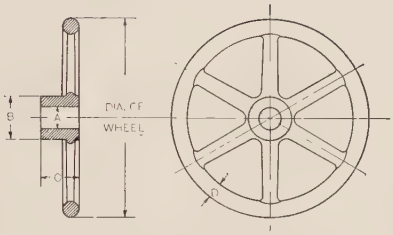


Fig. 45643. (*Luiheid*)

We have a number of patterns of Hand Wheels, suitable for use with special machines. The wheels are cast smooth, not turned on the rim, but are bored and keyseated or setscrewed. Hub dimensions can be changed, so as to place the hub central or on one side.

Price List, Subject to Discount, and Dimensions, Inches

Outside Diameter of Wheel	Price Each	CODE WORD	Maximum Bore "A"	B	C	D
6	$ 2.25	Lumbellos	7/8	1 3/4	1 3/4	7/8
7	2.60	Lumberdar	15/16	1 7/8	1 7/8	7/8
8	3.15	Lumbulorum	1	2	2	1
9	3.60	Lumectis	1 1/8	2 1/4	2 1/8	1
10	4.25	Lumectum	1 1/4	2 1/2	2 1/4	1
12	5.25	Lumeggiano	1 3/8	2 5/8	2 3/8	1
14	5.60	Lumeggiare	1 7/16	2 7/8	2 1/2	1 1/8
16	6.00	Lumeggiava	1 1/2	3	2 5/8	1 1/8
18	7.50	Lumeggio	1 5/8	3 1/4	2 7/8	1 1/8
20	9.00	Lumettino	1 11/16	3 3/8	3	1 1/4
24	12.00	Lumignon	1 3/4	3 1/2	3 3/8	1 1/4
30	16.50	Luminade	1 15/16	3 7/8	3 5/8	1 1/2
36	22.50	Luminaire	2 3/16	4 3/8	4	1 5/8

In telegraphing, use code word for size of wheel, and follow with code word for bore, using code for bore of gears, page 372.

Quill Arrangement for Power Transmission

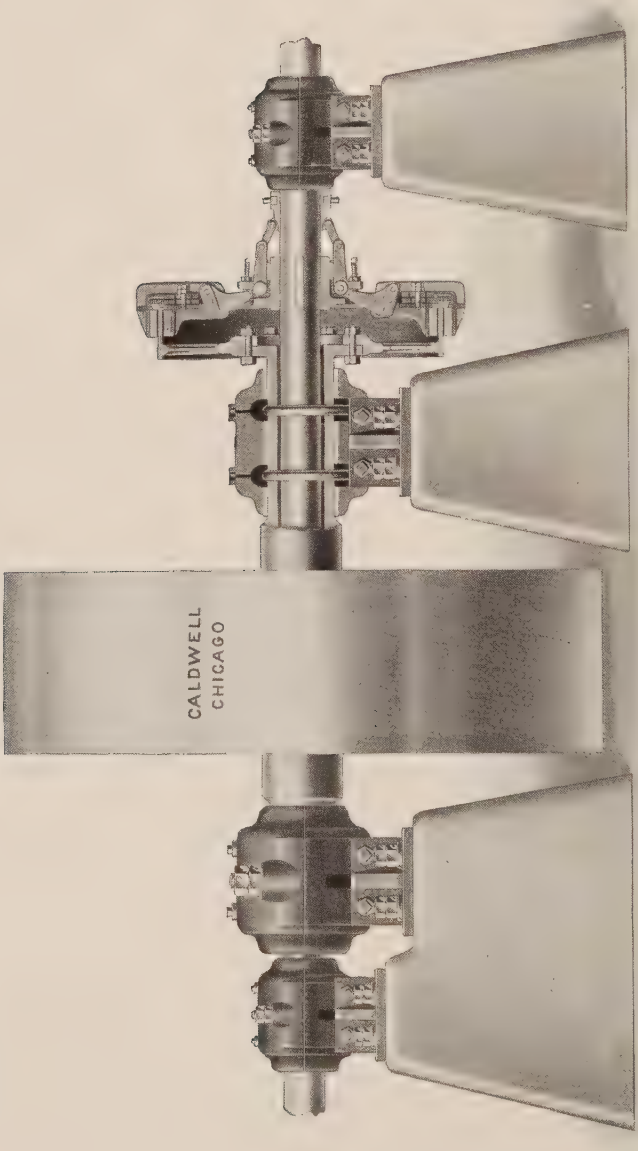


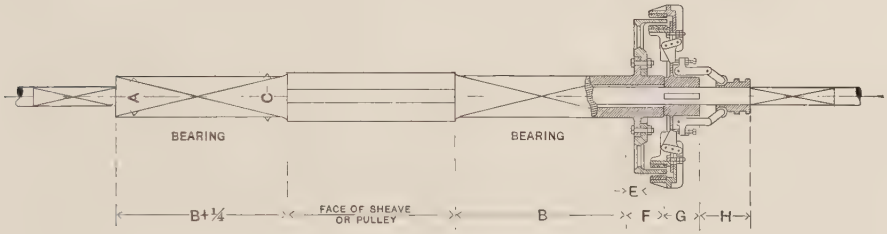
Fig. 45644. (*Cimeter*)

Quills or Hollow Shafts

The arrangement of hollow shaft or quill, indicated by the cut on preceding page, is principally used on jack shafts, where a large amount of power is to be transmitted. The solid shaft extends through the bore of the quill with ample clearance, and the bearings for the quill and solid shaft are independent. A sheave or pulley is carried by the quill, and a friction clutch connects or disconnects the quill from the solid shaft. By this arrangement the quill may remain idle while power is transmitted by means of the shaft, and the quill bearings being independent, there is no wear upon them unless both the quill and solid shaft are turning.

Prices upon application.

Dimensions of Cast Iron Quills or Hollow Shafts



Diameter of Shaft, Inches	DIMENSIONS, INCHES				Key Seat in Boss, Inches	Standard Size of Clutch, Inches	Key Seat in Shaft, Inches	DIMENSIONS, INCHES		
	A	B	C	E				F	G	H
2 7/16	5	20	6	2¼	1¼x¼	18	5/8x5/16	4½	4¼	6¾
2 15/16	5½	21	6½	2½	1½x¼	20	¾x⅜	5⅜	5	7½
3 7/16	6	22	7	2¾	1¾x¼	22	⅞x7/16	5½	5⅝	8¼
3 15/16	6½	24	7½	3	2 x¼	24	1 x½	6	6⅛	8¼
4 7/16	7	26	8¼	3¼	2 x⅜	28	1⅛x9/16	6½	6¾	8¼
4 15/16	7½	27	9	3½	2¼x⅜	32	1¼x⅝	6⅞	7¼	9⅜
5 7/16	8	29	9¾	3¾	2½x⅜	*36	1⅜x11/16	7⅞	7¾	10¼
5 15/16	8½	30	10½	4	2¾x⅜	*40	1½x¾	8⅝	8¼	10½
6 7/16	9	32	11¼	4¼	3 x⅜	*48	1⅝x13/16	9⅝	9¼	11
6 15/16	10	35	12	4½	3¼x⅜	*54	1¾x⅞	10¼	10½	13
7 7/16	11	38	13	5	3½x⅜	*60	1⅞x15/16	10	17¼	15
7 15/16	12	42	14	5½	3¾x⅜	*72	2 x1	12⅞	19	17

Clutches marked * have six arms.

In cases where extra heavy service is demanded, cast steel quills should be used.

Portable Shaft Key Seater

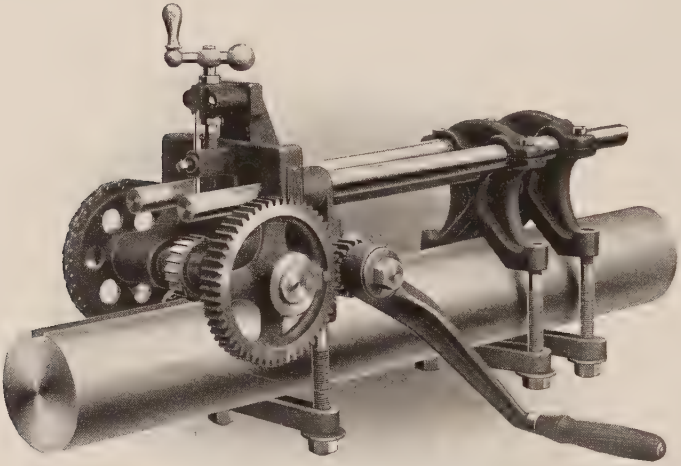


Fig. 45645. (*Claquer*)

The Portable Shaft Keyseaters shown above will be found invaluable where there is much repair or alteration work on shafting, and in erection. Cutting keyseats by hand is a long and tedious job, and very often makes necessary a shut down of the plant until the work is done. Keyseating with the Portable Shaft Keyseater can be very quickly and easily done, without taking the shaft down, and even where the work must be done in cramped places.

These machines are made in three sizes, any one of which will mill keyseats in any shaft up to its limit of capacity. Sets of milling cutters are furnished with each machine, which can be used singly, or combined, so as to cut any width of keyseat in one operation. Each machine cuts keyseats 12 inches long at one setting.

Price List, Subject to Discount, and Specifications

Number of Machine	1	2	3
Price, each	$110.00	$190.00	$300.00
Code Word	Luftfarbe	Luftfeuer	Luftgaenge
Largest shafting diameter	5″	8″	12″
Will mill at each setting	12″	12″	12″
Number of cranks	1	2	2
Number of cutters in set	5	6	7
Will mill all widths	¼″-1⅛″	¼″-1½″	¼″-2½″
Net weight, pounds	75	200	450
Gross weight, boxed	100	250	500

Motor Driven Portable Shaft Keyseater

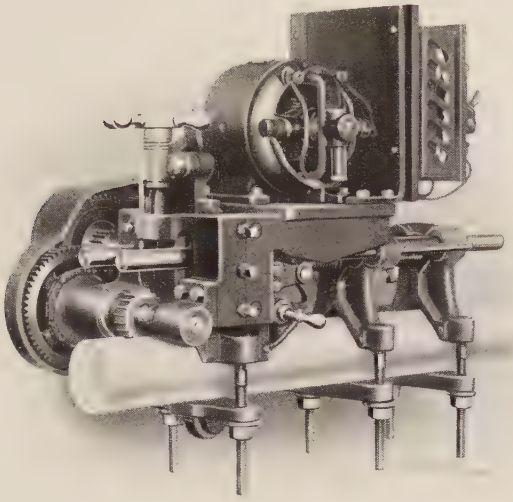


Fig. 45646. (*Luikring*)

Where electric power is available, considerable time will be saved in using the Motor Driven Keyseater in place of the usual type operated by hand power. The general construction of the machine is the same as the machines shown on page 746.

The motor is mounted on a substantial platform bolted to the cutter-slide, and is connected to the spindle of the keyseater through a train of gears, the first pinion being rawhide. The gear train is covered with a cast iron case.

The machine is furnished with motors for almost any standard current, either direct or alternating, and is supplied with flexible cord and screw plug for attachment to standard lamp socket. In ordering specify the voltage and kind of current—direct or alternating—and if alternating, specify the number of cycles and phases.

Price List, Subject to Discount, and Specifications

Number of machine	11	12	13
Price, each	$310.00	$500.00	$750.00
Code Word	Luftgeist	Lufthahn	Lufthauch
Largest shaft capacity	5″	8″	12″
Will mill at each setting	12″	12″	12″
Horsepower of motor	1/3	3/4	1
Speed of motor	1725	1725	1725
Number of cutters	5	6	7
Will mill all widths	1/4″-1 1/8″	1/4″-1 1/2″	1/4″-2 1/2″
Net weight, pounds	175	425	750
Gross weight, pounds	225	500	850

Screening Machinery

We have had considerable experience in the manufacture of screens of all kinds and sizes, covered with perforated metal or wire cloth, and shall be pleased to furnish estimates upon receiving specifications, or to suggest the type of screen we think best adapted for the particular case.

We show below and on the following pages some of the types of screens which we have made.

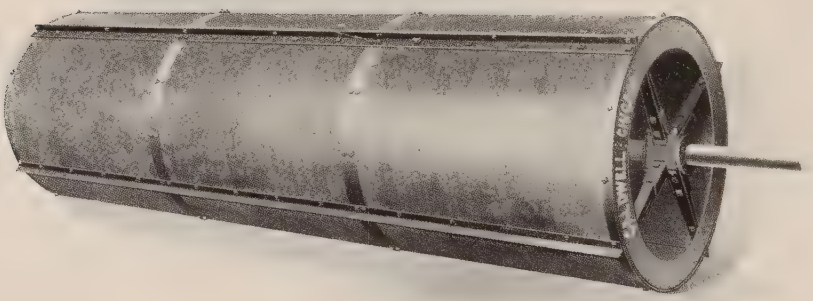


Fig. 45647. (*Combinate*)
Plain Cylindrical Screen

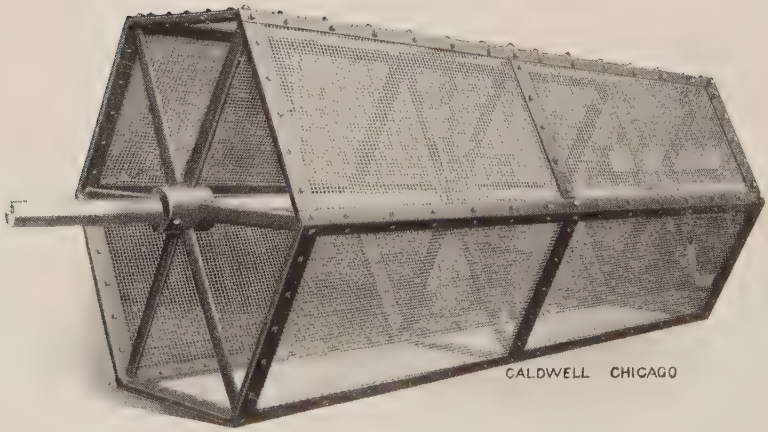


Fig. 45648. (*Landseuche*)
Hexagonal Screen

Screening Machinery—Continued

Double Screens

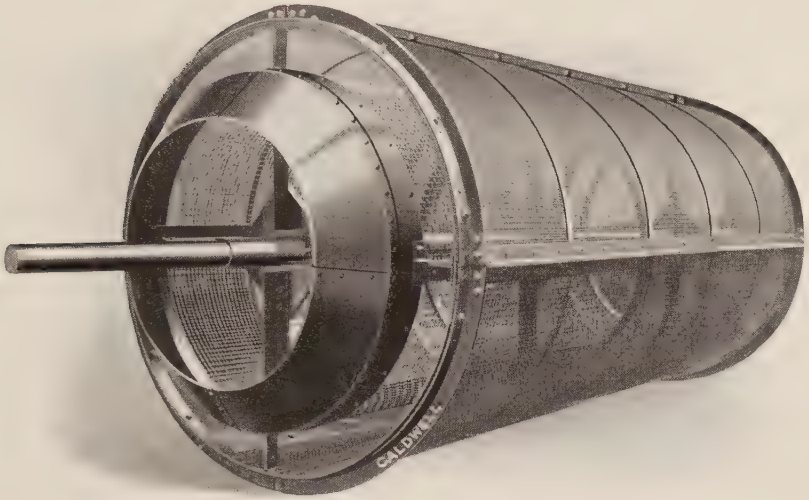


Fig. 45649. (*Combatant*)

The cuts on this page and Fig. 45651 on the following page show double screens, the inner cylinder being of perforated metal or wire cloth with larger perforations than the outer cylinder. This type of screen has the capacity and does the work of two independent screens.

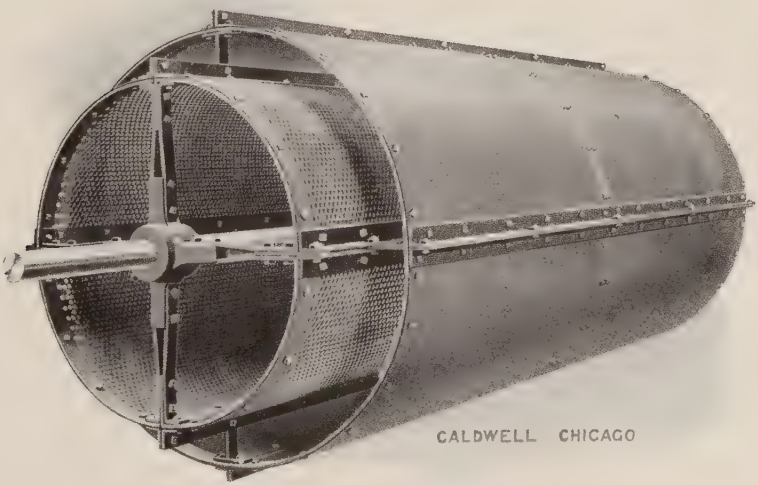


Fig. 45650. (*Combadura*)

Screening Machinery—Continued

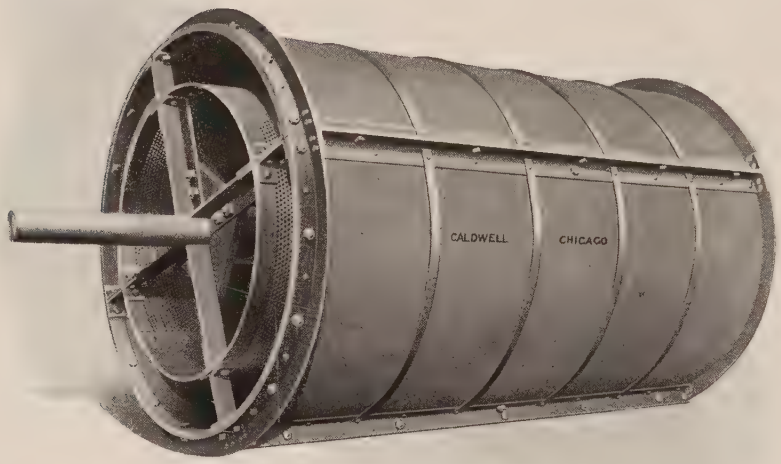


Fig. 45651. (*Lenigende*)
Double Screen

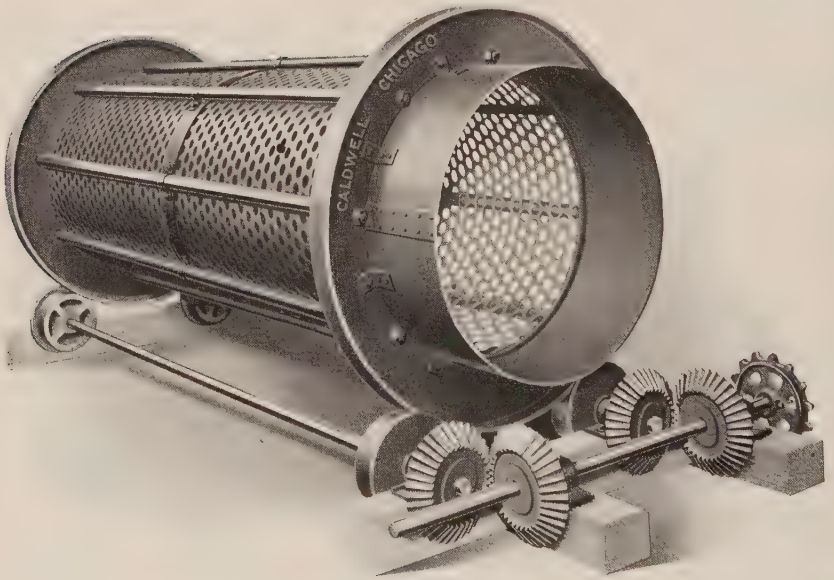


Fig. 45652. (*Luikerwaal*)
Heavy Trunnion Screen

Screening Machinery—Continued

Screens with Steel Housings

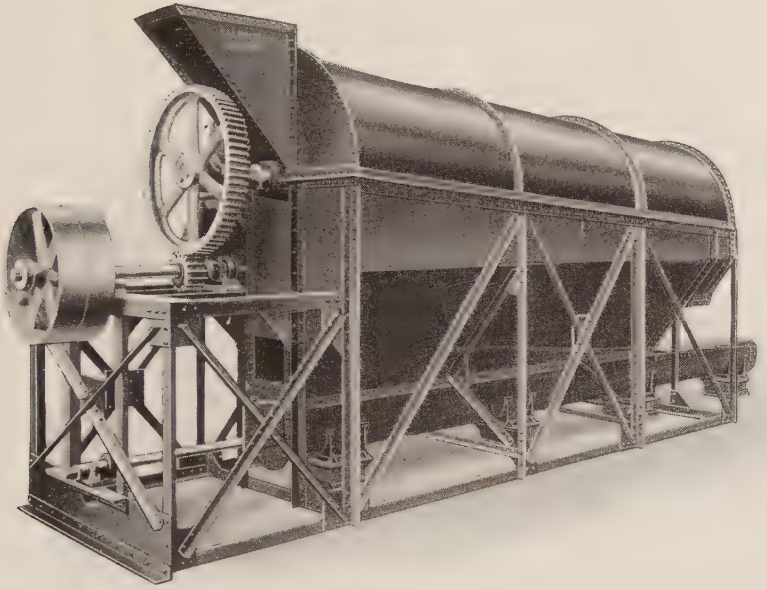


Fig. 45653. (*Drinkpot*)

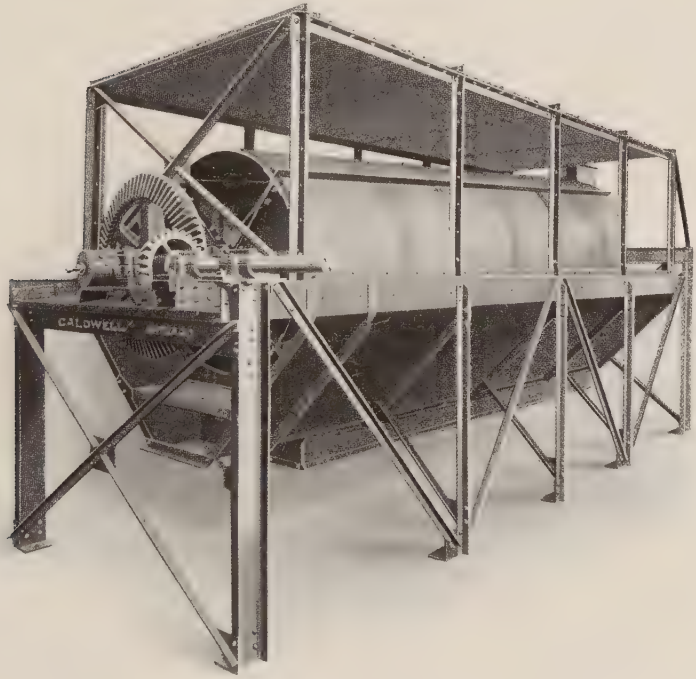


Fig. 45654. (*Landsgoed*)

Special Screen for Crushed Stone

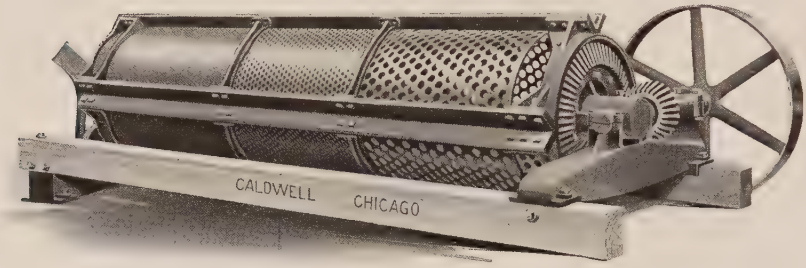
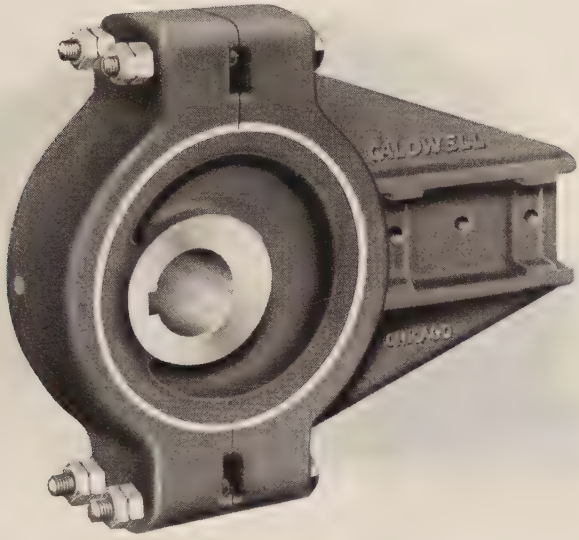


Fig. 45655. (*Altify*)
A strong and durable screen specially designed for use with stone crushers.

Specifications for Stone Screens

Size of Screen	CODE WORD	H. P. Required	Rev. per Minute	Size of Pulley. Inches	Countershaft		Approximate Overall Dimensions	
					Diameter	Rev. per Minute	Width of Frame	Length of Frame
24″x 6′	Lufthimmel	3¼	22½	36x 8½	2 3/16	45	50¼	10′ 0″
8′	Lufthoehe	4	22½	36x 8½	2 3/16	45	50¼	12′ 0″
10′	Lufthonig	4¾	22½	42x 8½	2 3/16	45	50¼	14′ 0″
12′	Luftkampf	5½	22½	42x 8½	2 3/16	45	50¼	16′ 0″
14′	Luftkanal	6	22½	48x 8½	2 3/16	45	50¼	18′ 0″
16′	Luftklappe	6¾	22½	48x 8½	2 3/16	45	50¼	20′ 0″
18′	Luftkrieg	7½	22½	48x 8½	2 3/16	45	50¼	22′ 0″
20′	Luftkugel	8¼	22½	48x10½	2 3/16	45	50¼	24′ 0″
32″x 6′	Luftkunde	4½	22	36x 8½	2 7/16	55	67½	10′ 6″
8′	Luftlinie	5¼	22	36x 8½	2 7/16	55	67½	12′ 6″
10′	Luftloch	6¼	22	42x 8½	2 7/16	55	67½	14′ 6″
12′	Luftloches	7¼	22	42x 8½	2 7/16	55	67½	16′ 6″
14′	Luftmalz	8	22	48x 8½	2 7/16	55	67½	18′ 6″
16′	Luftmetall	9	22	48x 8½	2 7/16	55	67½	20′ 6″
18′	Luftmeteor	10	22	48x10½	2 7/16	55	67½	22′ 6″
20′	Luftnacht	11	22	48x10½	2 7/16	55	67½	24′ 6″
22′	Luftocher	12	22	54x11½	2 7/16	55	67½	26′ 6″
40″x 6′	Luftofen	5	18	48x 8½	2 15/16	45	71½	11′ 0
8′	Luftpumpe	6¼	18	48x 8½	2 15/16	45	71½	13′ 0′
10′	Luftraum	7½	18	48x10½	2 15/16	45	71½	15′ 0
12′	Luftraumes	8¼	18	48x10½	2 15/16	45	71½	17′ 0
14′	Luftroehre	9¾	18	54x11½	2 15/16	45	71½	19′ 0
16′	Luftsaeule	11	18	54x11½	2 15/16	45	71½	21′ 0
18′	Luftsalzen	12	18	54x11½	2 15/16	45	71½	23′ 0′
20′	Luftschiffe	13¼	18	60x12½	2 15/16	45	71½	25′ 0′
22′	Luftstoss	14¼	18	60x12½	2 15/16	45	71½	27′ 0
48″x 8′	Luftstrich	7¼	16	48x10½	3 3/16	40	87½	13′ 9′
10′	Luftstrom	9	16	54x11½	3 3/16	40	87½	15′ 9″
12′	Luftthurm	10½	16	54x11½	3 3/16	40	87½	17′ 9″
14′	Luftwaerts	11¾	16	60x12½	3 3/16	40	87½	19′ 9″
16′	Luftwagen	13¼	16	60x12½	3 3/16	40	87½	21′ 9″
18′	Luftwasser	14½	16	66x13½	3 3/16	40	87½	23′ 9″
20′	Luftweg	16	16	66x13½	3 3/16	40	87½	25′ 9″
22′	Luftweges	17¼	16	66x13½	3 3/16	40	87½	27′ 9″
60″x 8′	Luftwelle	9½	12	54x11½	4 3/16	40	108	15′ 6″
10′	Luftwesen	11	12	60x12½	4 3/16	40	108	17′ 6″
12′	Luftzuegen	13	12	60x12½	4 3/16	40	108	19′ 6″
14′	Luftzug	15	12	66x13½	4 3/16	40	108	21′ 6″
16′	Luftzuges	16½	12	66x13½	4 3/16	40	108	23′ 6″
18′	Lugarejo	18½	12	66x13½	4 3/16	40	108	25′ 6″

Eccentrics



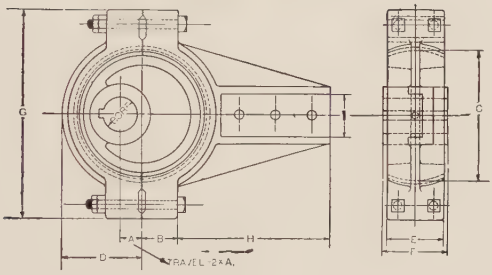


Fig. 45656. (*Luikgat*)

Eccentrics, suitable for shaking screens and similar work, can be furnished in a number of patterns. The eccentric straps are split and babbitted. The eccentrics are turned on the outside, bored and key-seated. Straps are tapped for grease cups. Grease cups not included in price.

Price List, Subject to Discount, and Dimensions, Inches

Number of Eccentric	Price Each	CODE WORD	Bores	A	B	C	D	E	F	G	H	I
1	$ 50.00	Luctantem	$1\frac{15}{16}$-$2\frac{7}{16}$	1	2	7¼	4½	3¼	3⅝	11¼	9½	2½
2	75.00	Luctarent	$2\frac{15}{16}$-$2\frac{15}{16}$	1½	2½	9	5½	3¾	4½	14½	10½	3
3	125.00	Luctas	$2\frac{15}{16}$-$3\frac{7}{16}$	2	3	11½	6¾	4¼	5	17½	13	4
4	225.00	Luctatiano	$3\frac{7}{16}$-$3\frac{15}{16}$	2½	3⅜	14	8½	5	5¾	21½	14¾	5
5	300.00	Luctatius	$3\frac{15}{16}$-$4\frac{7}{16}$	3	4	16	9⅞	5½	6½	24	16½	5½
6	350.00	Lucatorem	$4\frac{7}{16}$-$4\frac{15}{16}$	3	4⅜	17	10¾	6½	7	26	19	6

In telegraphing, use code word for number of eccentric, from list above, and follow with code word for bore. See code for bore of gears, page 372.

Cottonseed Oil Mill Screens

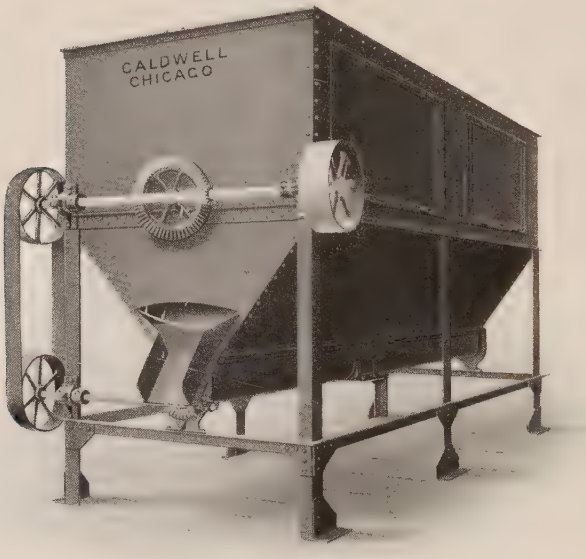


Fig. 45657. (*Latineando*)

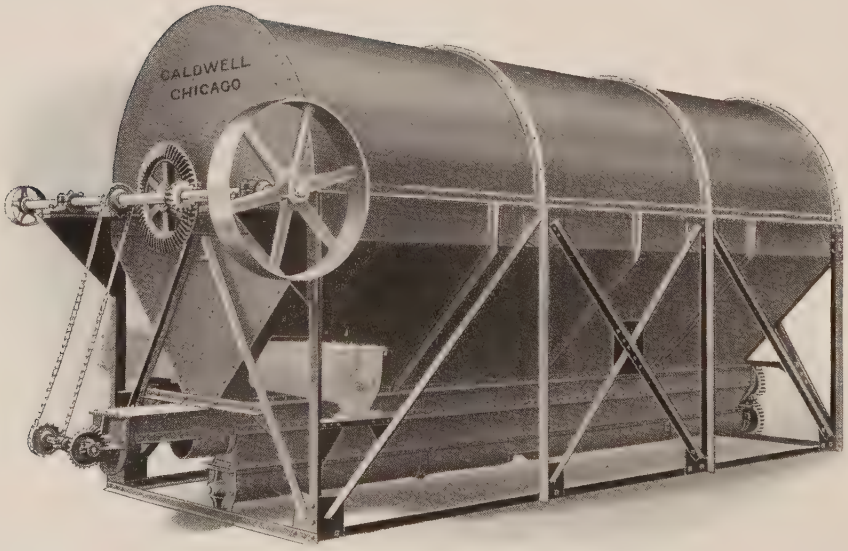


Fig. 45658. (*Latinearan*)

Cottonseed Oil Mill Screens—Continued

The all-steel screens shown in the opposite illustrations are a decided improvement over the older types of screens.

We are prepared to make sand screens, boll screens, meat screens, separator screens, combination screens, and screens for bolting meal, of the same general type.

These screens are completely assembled in our factory before shipment, and are shipped knocked down, with all the parts marked so that the erection presents no difficulties.

These screens are made to stand either parallel with the driving shaft, or at right angles to it, as shown in the cut. They may be furnished with horizontal shaking separator beneath the screen if so desired. The reels will be covered with perforated metal or wire cloth as preferred by the purchaser.

We shall be pleased to furnish estimates upon any of the above mentioned screens upon receipt of information as to the purpose for which the screens are to be used, the capacity desired, etc.

Wire Brushes for Cleaning Screens

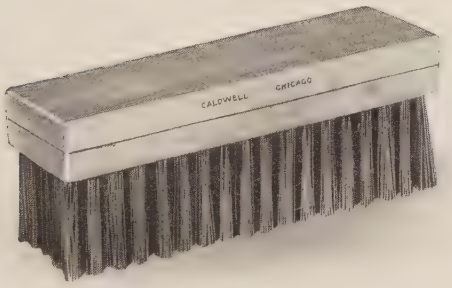


Fig. 45659. (*Coherent*)

We furnish brushes specially made for cleaning perforations of screens in cottonseed-oil mills and other classes of work.

Price each, (subject to discount) $1.50

Perforated Metals

We are prepared to furnish perforated iron, steel, copper, brass, zinc or tin.

In addition to the styles and sizes of perforations shown on the following pages we can furnish many others.

It will be readily understood that large numbers of sheets with the same perforations can be furnished at a lower proportionate price than small orders.

Prices will be made upon application and receipt of the following information:

1. Kind of metal and outside dimensions of sheet each way.

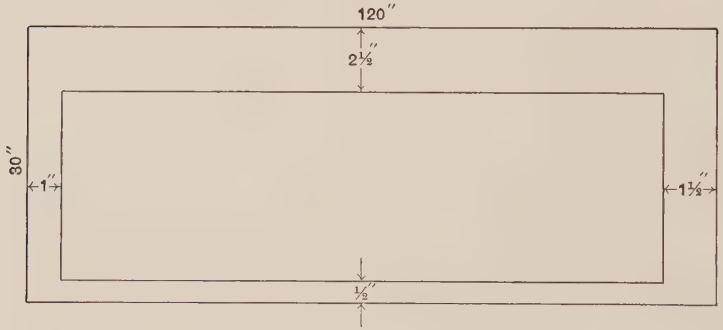
2. Size of perforations and shape—round, slotted or oval.

3. If slotted or oval state which way of the sheet the perforations are to run, that is, whether lengthwise or crosswise, and whether hit and miss endwise or sidewise. For explanation of this term see cuts on following pages.

4. Gauge or thickness of metal. Unless otherwise specified all perforated metal will be furnished U. S. Standard gauge.

5. Give the width of margins, and state if screw holes or nail holes are wanted to fasten to frame. Send diagram as shown below.

6. Whether the sheet is to be flat or rolled.



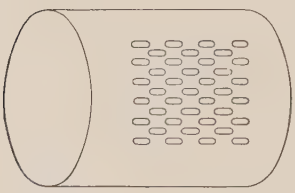


Fig. 45660. (*Laralium*)

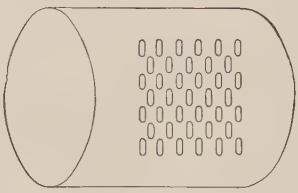


Fig. 45661. (*Larapio*)

Perforated Metals—Continued

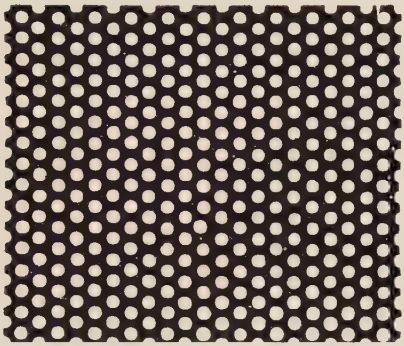


Fig. 45662. (*Landschaft*)
$\frac{1}{16}$-inch Round, $\frac{7}{64}$-inch Centers

Fig. 45663. (*Landschatz*)
$\frac{1}{8}$-inch Round, $\frac{3}{16}$-inch Centers

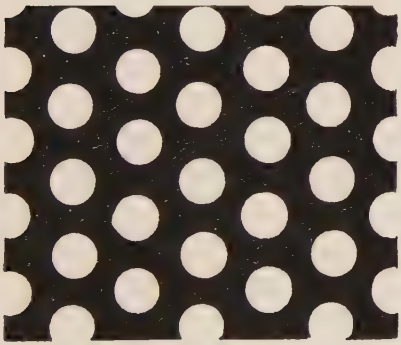


Fig. 45664. (*Landschiff*)
$\frac{3}{16}$-inch Round

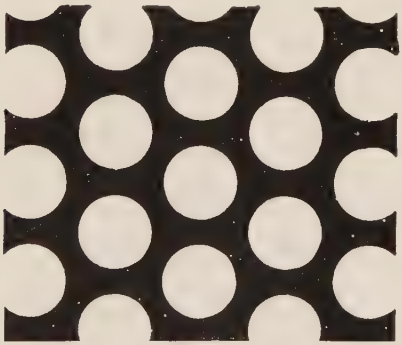


Fig. 45665. (*Landschool*)
$\frac{3}{8}$-inch Round

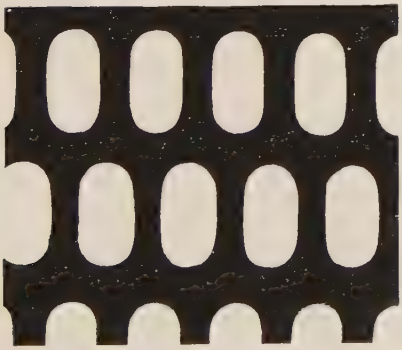


Fig. 45666. (*Landschule*)
$\frac{1}{4}$ x $\frac{1}{2}$-inch "Hit and Miss" Endways

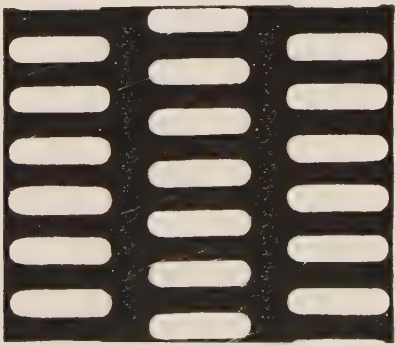


Fig. 45667. (*Landscrip*)
$\frac{1}{8}$ x $\frac{1}{2}$-inch "Hit and Miss" Endways

Perforated Metals—Continued

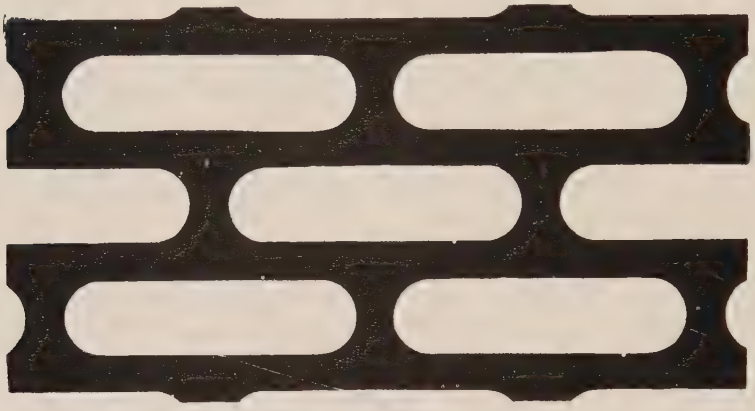


Fig. 45668. (*Landsdief*)
$\frac{3}{8}$ x 2-inch "Hit and Miss" Sideways (Cut not to size)

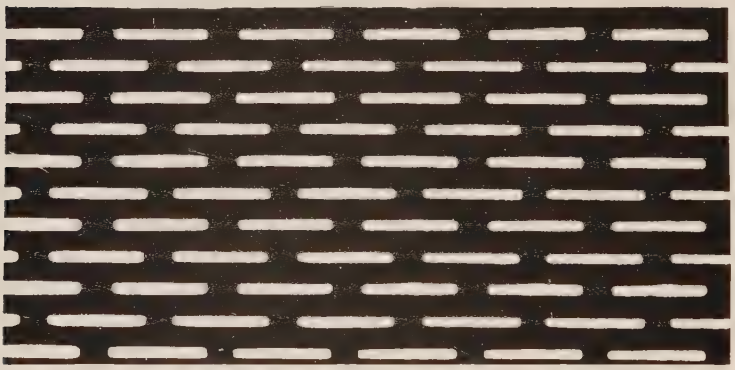


Fig. 45669. (*Landsee*)
$\frac{2}{16}$ x $\frac{1}{2}$-inch "Hit and Miss" Sideways

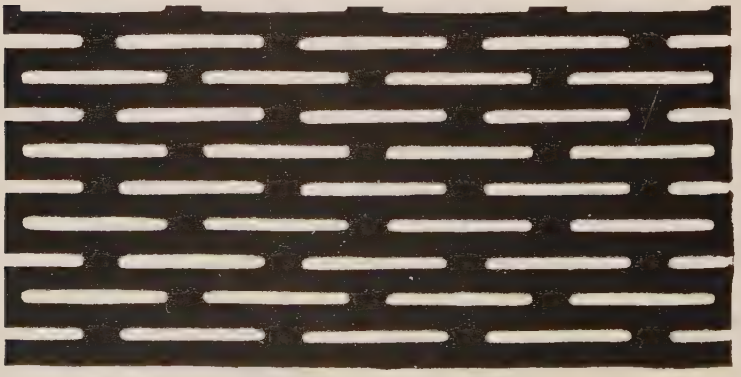
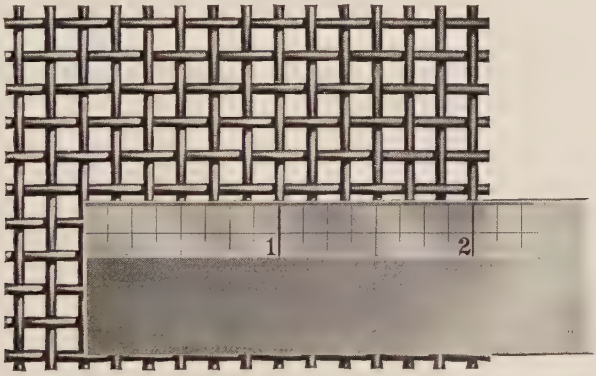


Fig. 45670. (*Landseite*)
$\frac{1}{16}$ x $\frac{3}{4}$-inch "Hit and Miss" Sideways

Steel Wire Cloth

We are prepared to furnish either from stock, or upon short notice the standard sizes of steel wire cloth. On pages 764 to 770 we give the standard steel wire cloth list. It will be noted that the size of opening or space in decimal parts of an inch for each size, is given in this list

MESH. The number of openings per lineal inch measured from center to center of wires is termed the "mesh." Thus, four mesh screen has four openings to the lineal inch, or sixteen openings per square inch. The cut below shows the correct way of measuring the mesh of wire cloth. The cloth shown is 6x6 mesh No. 18, .047 inch wire cloth.



SPACE. The actual opening between the wires is known as the "space." The space in decimal parts of an inch is given in the list for each size of wire cloth.

GAUGE. The Washburn & Moen gauge has been adopted as standard for iron and steel wire cloth, and Old English gauge for brass, copper and bronze wire cloth, and these gauges will be furnished unless otherwise specified.

In order that there may be no confusion it is well to state, as well as the number of the wire, the decimal size of the wire in ordering or asking for price, for example: "8x8 mesh No. 16 (.063) steel wire cloth."

For comparison of various wire gauges see page 763.

For actual size of Washburn & Moen gauge wire, see page 760.

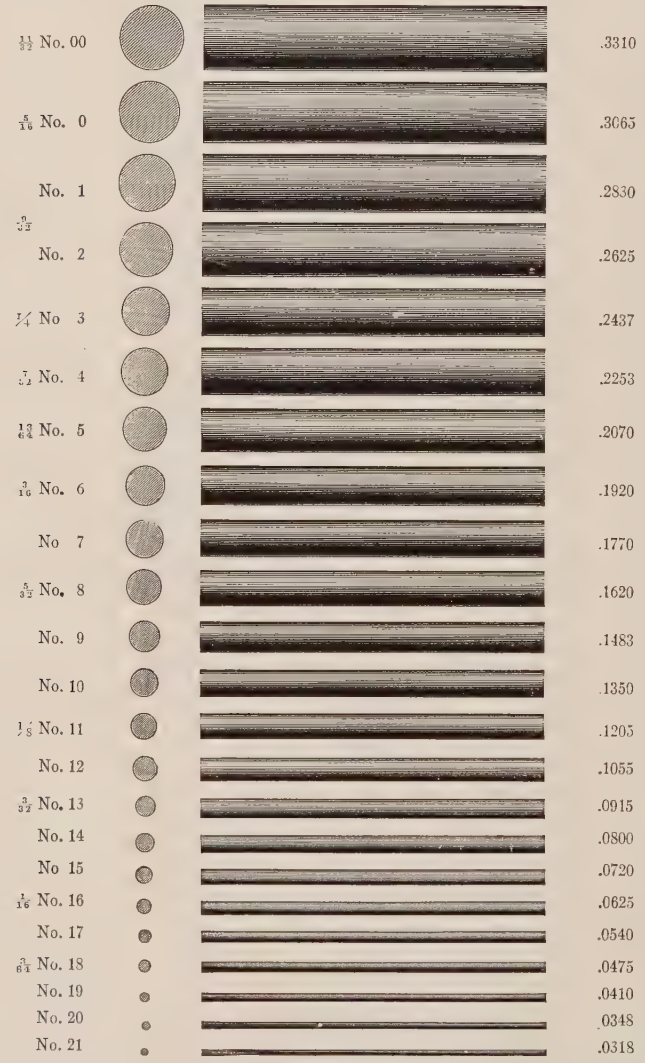
FULL ROLLS. No less than 100 lineal feet shall be considered a roll of wire cloth. Cut lengths can, however, be furnished.

STOCK WIDTHS. Regular stock widths are 18, 24, 30 and 36 inches. Special widths of cloth can be furnished if necessary but must be woven to order, with consequent delay and increase in price.

Steel Wire Cloth—Continued

Actual Sizes of Wire

Approximate sizes in common fractions at the left, and decimals to four figures at the right.



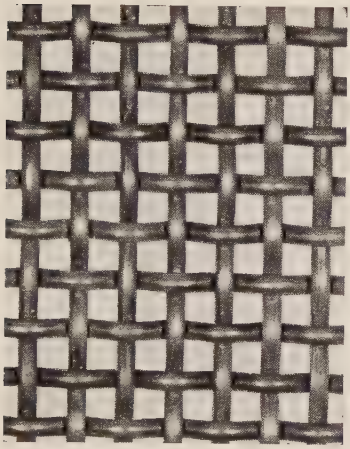
The above sizes are Washburn & Moen gauge which is standard for steel wire cloth.

For comparison of the Washburn & Moen gauge with other gauges, see page 763.

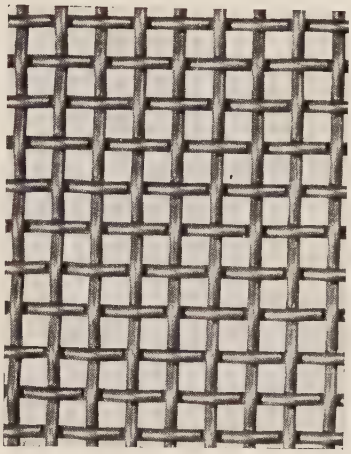
Special prices will be quoted on galvanized, tinned, brass and copper wire cloth.

Steel Wire Cloth—Continued

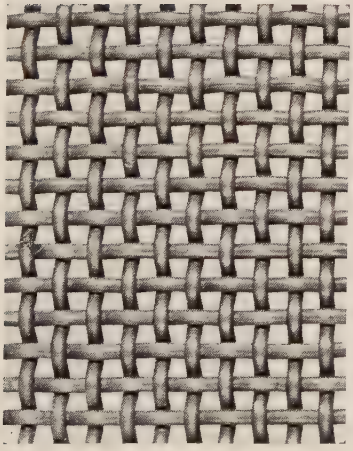
The following cuts show actual sizes of wire and a few of the meshes in general use.



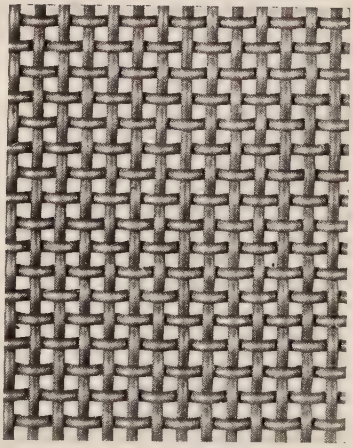
4 mesh, .105 wire



5 mesh, .072 wire

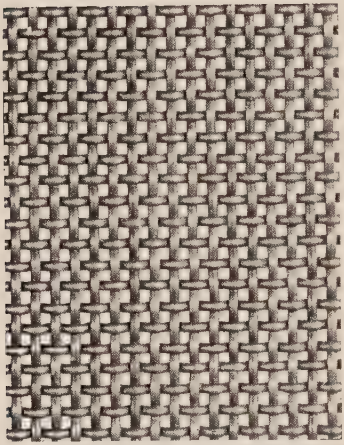


6 mesh, .080 wire

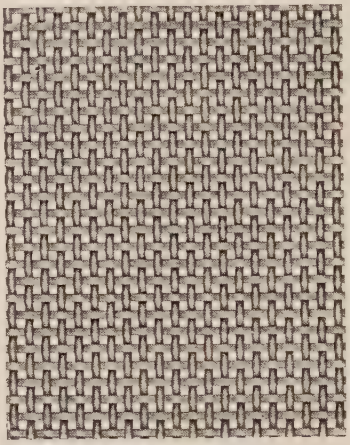


8 mesh, .063 wire

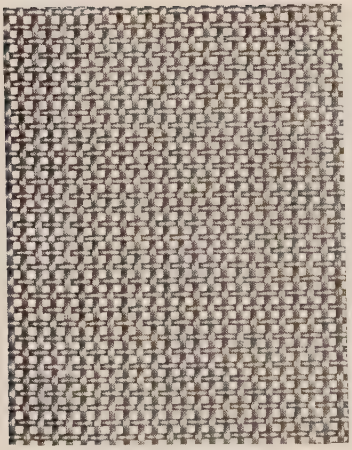
Steel Wire Cloth—Continued



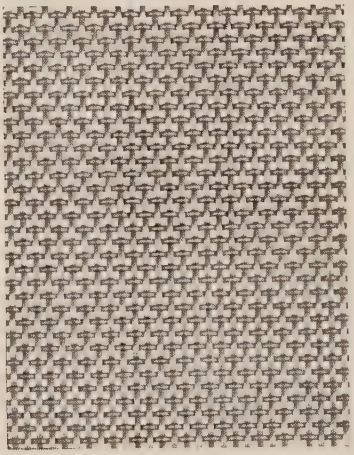
10 mesh, .054 wire



12 mesh, .047 wire

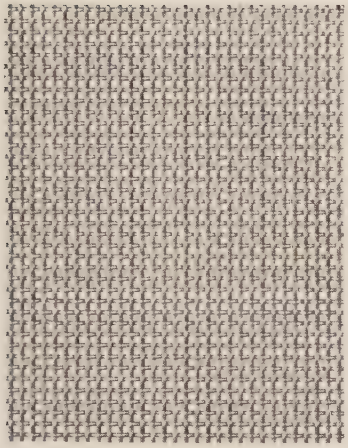


14 mesh, .041 wire

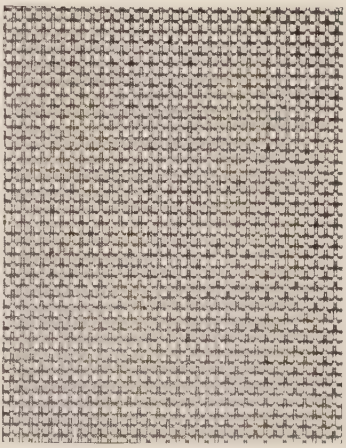


16 mesh, .035 wire

Steel Wire Cloth—Continued



18 mesh, .028 wire



20 mesh, .025 wire

Table Showing the Difference Between Wire Gauges

No.	Old English	Washburn & Moen	Birmingham or Stubs	American or Brown & Sharpe	No.	Old English	Washburn & Moen	Birmingham or Stubs	American or Brown & Sharpe
0000	.454	.393	.454	.460	19	.040	.041	.042	.03589
000	.425	.362	.425	.40964	20	.035	.035	.035	.03196
00	.380	.331	.380	.36480	21	.0315	.032	.032	.02846
0	.340	.307	.340	.32495	22	.0295	.028	.028	.025347
1	.300	.283	.300	.28930	23	.027	.025	.025	.022571
2	.284	.263	.284	.25763	24	.025	.023	.022	.0201
3	.259	.244	.259	.22942	25	.023	.020	.020	.0179
4	.238	.225	.238	.20431	26	.0205	.018	.018	.01594
5	.220	.207	.220	.18194	27	.0187	.017	.016	.014195
6	.203	.192	.203	.16202	28	.0165	.016	.014	.012641
7	.180	.177	.180	.14428	29	.0155	.015	.013	.011257
8	.165	.162	.165	.12849	30	.0137	.014	.012	.010025
9	.148	.148	.148	.11443	31	.0122	.0132	.010	.008928
10	.134	.135	134	.10189	32	.0112	.0128	.009	.00795
11	.120	.120	.120	.09074	33	.0102	.0118	.008	.00708
12	.109	.105	.109	.08081	34	.0095	.0104	.007	.0063
13	.095	.092	.095	.07196	35	.009	.0095	.005	.00561
14	.083	.080	.083	.06408	36	.0075	.009	.004	.005
15	.072	.072	.072	.05707	37	.0065	.0085	....	.00445
16	.065	.063	.065	.05082	38	.0057	.008	....	.003965
17	.058	.054	.058	.04525	39	.005	.0075	...	.003531
18	.049	.047	.049	.04030	40	.0045	.007	....	.003144

Steel Wire Cloth

Price List, Subject to Discount

See Below	No. of Wire	Decimal Size of Wire	Size of Opening	Price per Square Foot	CODE WORD
1	3	.244	.756	$0.88	Wabble
1	4	.225	.775	.73	Wabbling
1	5	.207	.793	.60	Wachfeuer
1	6	.192	.808	.48	Wadded
1	7	.177	.823	.38	Wadhook
1	8	.162	.838	.32	Wadsett
1	9	.148	.852	.27	Waeldchen
1	10	.135	.865	.22	Waffnen
1	11	.120	.880	.17	Wafers
1	12	.105	.895	.14	Waftage
1	13	.092	.908	.12	Wafting
1	14	.080	.920	.10	Wafture
1	15	.072	.928	.08	Wag
¾	4	.225	.525	.88	Wagegela
¾	5	.207	.543	.73	Wagerer
¾	6	.192	.558	.60	Wagering
¾	7	.177	.573	.48	Wagging
¾	8	.162	.588	.38	Waggish
¾	9	.148	.602	.32	Waggoner
¾	10	.135	.615	.27	Wagtail
¾	11	.120	.630	.22	Wahrhaft
¾	12	.105	.645	.17	Wahrwolf
¾	13	.092	.658	.14	Wailfully
¾	14	.080	.670	.12	Wailing
¾	15	.072	.678	.10	Wailment
¾	16	.063	.687	.08	Wainage
⅝	5	.207	.418	.88	Wainrope
⅝	6	.192	.433	.73	Wainscot
⅝	7	.177	.448	.60	Waistband
⅝	8	.162	.463	.48	Waistcoat
⅝	9	.148	.477	.38	Waiter
⅝	10	.135	.490	.32	Waitress
⅝	11	.120	.505	.27	Wakefully
⅝	12	.105	.520	.22	Waken
⅝	13	.092	.533	.17	Wakening
⅝	14	.080	.545	.14	Waldig
⅝	15	.072	.553	.12	Walkable
⅝	16	.063	.562	.10	Walker
⅝	17	.054	.571	.08	Wallet
2	6	.192	.308	.88	Wallfahrer
2	7	.177	.323	.73	Wallflower
2	8	.162	.338	.60	Wallfruit
2	9	.148	.352	.48	Walloping
2	10	.135	.365	.38	Wallow
2	11	.120	.380	.32	Wallowish
2	12	.105	.395	.27	Wallpaper
2	13	.092	.408	.22	Wallrue
2	14	.080	.420	.17	Wallung
2	15	.072	.428	.14	Wallwort
2	16	.063	.437	.12	Walnut
2	17	.054	.446	.10	Waltz
2	18	.047	.453	.08	Waltzer

Distance in Inches, Center to Center of Wire

No. Meshes per Inch

The above prices are based on Washburn & Moen gauge wire which is standard and will be furnished on all orders unless otherwise specified.

Special prices will be quoted on galvanized, tinned, brass and copper wire cloth

Steel Wire Cloth

Price List, Subject to Discount—Continued

No. Meshes per Inch	No. of Wire	Decimal Size of Wire	Size of Opening	Price per Square Foot	CODE WORD
2½	8	.162	.238	$0.73	Waltzing
2½	9	.148	.252	.60	Wamble
2½	10	.135	.265	.48	Wandlebar
2½	11	.120	.280	.38	Wanderer
2½	12	.105	.295	.32	Wandering
2½	13	.092	.308	.27	Wankelmuth
2½	14	.080	.320	.22	Wantless
2½	15	.072	.328	.17	Wantonly
2½	16	.063	.337	.14	Wantonness
2½	17	.054	.346	.12	Wapentake
2½	18	.047	.353	.10	Wappenshaw
2½	19	.041	.359	.08	Warbeaten
3	9	.148	.185	.73	Warbled
3	10	.135	.198	.60	Warbling
3	11	.120	.213	.48	Warcry
3	12	.105	.228	.38	Warden
3	13	.092	.241	.32	Wardenship
3	14	.080	.253	.27	Wardmote
3	15	.072	.261	.22	Wardrobe
3	16	.063	.270	.17	Wardship
3	17	.054	.279	.14	Wardsmith
3	18	.047	.286	.12	Wareroom
3	19	.041	.292	.10	Warfare
3	20	.035	.298	.08	Warhable
3½	10	.135	.151	.73	Warhorse
3½	11	.120	.165	.60	Warily
3½	12	.105	.180	.48	Warlike
3½	13	.092	.194	.38	Warmish
3½	14	.080	.206	.32	Warmness
3½	15	.072	.213	.27	Warmth
3½	16	.063	.223	.22	Warping
3½	17	.054	.231	.17	Warproof
3½	18	.047	.238	.14	Warrantise
3½	19	.041	.244	.12	Warren
3½	20	.035	.250	.10	Warrior
3½	21	.032	.254	.08	Warworn
4	11	.120	.130	.73	Wartless
4	12	.105	.145	.60	Wartwort
4	13	.092	.158	.48	Warwhoop
4	14	.080	.170	.38	Washable
4	15	.072	.178	.32	Washball
4	16	.063	.187	.27	Washboard
4	17	.054	.196	.22	Washer
4	18	.047	.203	.17	Washerman
4	19	.041	.209	.14	Washhouse
4	20	.035	.215	.12	Washing
4	21	.032	.218	.10	Washtub
4	22	.028	.222	.08	Wasp
4½	12	.105	.117	.73	Waspish
4½	13	.092	.130	.57	Wassail
4½	14	.080	.142	.45	Wasteful
4½	15	.072	.150	.35	Wasteland
4½	16	.063	.159	.29	Wastepipe

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Steel Wire Cloth

Price List, Subject to Discount—Continued

No. Meshes per Inch	No. of Wire	Decimal Size of Wire	Size of Opening	Price per Square Foot	CODE WORD
4½	17	054	.168	$0.24	Wasting
4½	18	.047	.175	.19	Watchfully
4½	19	.041	.181	.15	Watchhouse
4½	20	.035	.187	.13	Watching
4½	21	.032	.190	.11	Watchler
4½	22	.028	.194	.09	Watchman
4½	23	.025	.197	.07	Watchtower
5	13	.092	.108	.60	Watchword
5	14	.080	.120	.48	Waterbird
5	15	.072	.128	.38	Waterbutt
5	16	.063	.137	.32	Watercart
5	17	.054	.146	.27	Watercress
5	18	.047	.153	.22	Waterflood
5	19	.041	.159	.17	Waterfowl
5	20	.035	.165	.14	Watering
5	21	.032	.168	.12	Watergate
5	22	.028	.172	.10	Watergruel
5	23	.025	.175	.08	Waterhen
5	24	.023	.177	.07	Waterman
6	14	.080	.087	.60	Watermill
6	15	.072	095	.48	Waterpail
6	16	.063	.104	.38	Waterpipe
6	17	.054	.113	.32	Waterpot
6	18	047	.120	.27	Watershed
6	19	.041	.126	.22	Waterside
6	20	.035	.132	.17	Waterspout
6	21	.032	.135	.14	Waterwall
6	22	.028	.139	.12	Waterwheel
6	23	.025	.141	.10	Waterwork
6	24	.023	.144	.08	Watery
6	25	020	.147	.07	Watscheln
7	15	.072	.071	.60	Wattling
7	16	.063	.080	.48	Waveless
7	17	.054	.089	.38	Wavellite
7	18	.047	.096	.32	Wavering
7	19	.041	.102	.27	Waxend
7	20	.035	.108	.22	Waxlight
7	21	.032	.111	.17	Waxwing
7	22	.028	115	.14	Waxwork
7	23	.025	.118	.12	Waybill
7	24	.023	120	.10	Wayfarer
7	25	.020	.123	.08	Wayfaring
7	26	.018	125	.07	Waylay
8	16	.063	.062	.60	Waymark
8	17	.054	.071	.48	Wayside
8	18	.047	.078	.38	Waywardly
8	19	.041	.084	.32	Weakening
8	20	.035	.090	.27	Weakling
8	21	.032	.093	.22	Weakness
8	22	.028	.097	17	Wealden
8	23	025	.100	.14	Wealsman
8	24	.023	.102	.12	Wealthily

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Steel Wire Cloth

Price List, Subject to Discount—Continued

No. Meshes per Inch	No. of Wire	Decimal Size of Wire	Size of Opening	Price per Square Foot	CODE WORD
8	25	.020	.105	$0.10	Weaning
8	26	.018	.107	.08	Weapon
8	27	.017	.108	.07	Weaponless
9	17	.054	.057	.60	Weariness
9	18	.047	.064	.48	Wearable
9	19	.041	.070	.38	Wearer
9	20	.035	.076	.32	Wearifully
9	21	.032	.079	.27	Wearisome
9	22	.028	.083	.22	Weasel
9	23	.025	.086	.17	Webbed
9	24	.023	.088	.14	Webfoot
9	25	.020	.091	.12	Weddings
9	26	.018	.093	.10	Wedged
9	27	.017	.094	.08	Wedlock
9	28	.016	.095	.07	Weedless
10	17	.054	.046	.72	Weepers
10	18	.047	.053	.60	Weepingly
10	19	.041	.059	.48	Weftage
10	20	.035	.065	.38	Wegblasen
10	21	.032	.068	.32	Wegbrennen
10	22	.028	.072	.27	Weevil
10	23	.025	.075	.22	Wegfahren
10	24	.023	.077	.17	Wegmachen
10	25	.020	.080	.14	Wegradiren
10	26	.018	.082	.12	Wehmutter
10	27	.017	.083	.10	Weiberhaft
10	28	.016	.084	.08	Weichling
10	29	.015	.085	.07	Weidmann
12	18	.047	.036	.72	Weighbeam
12	19	.041	.042	.60	Weightily
12	20	.035	.048	.48	Weightless
12	21	.032	.051	.38	Weird
12	22	.028	.055	.32	Welch
12	23	.025	.058	.27	Welchman
12	24	.023	.060	.22	Welded
12	25	.020	.063	.17	Weigerung
12	26	.018	.065	.14	Weinerlich
12	27	.017	.066	.12	Welcome
12	28	.016	.067	.10	Welcoming
12	29	.015	068	.08	Weldingly
12	30	.014	069	.07	
14	20	.035	.036	60	Welfare
14	21	.032	.039	.48	Welkin
14	22	.028	.043	.38	Wellborn
14	23	.025	.046	.32	Wellbred
14	24	.023	.048	.27	Wellnigh
14	25	.020	.051	.22	Wellspring
14	26	.018	.053	.17	Wellwish
14	27	.017	.054	.15	Weltering
14	28	.016	.055	.13	Welting
14	29	.015	.056	.12	Wench
14	30	.014	.057	.11	Wenchlike
14	31	.0135	.0575	.10	Wennish

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Steel Wire Cloth

Price List, Subject to Discount—Continued

No. Meshes per Inch	No. of Wire	Decimal Size of Wire	Size of Opening	Price per Square Foot	CODE WORD
14	32	.013	.058	$0.09	Weregild
14	33	.011	.060	.08	Wesleyan
14	34	.010	.061	.07	Wetness
16	21	.032	.0305	.73	Wetshod
16	22	.028	.034	.60	Wetterglas
16	23	.025	.036	.48	Whacking
16	24	.023	.040	.38	Whale
16	25	.020	.0425	.32	Whalebone
16	26	.018	.0445	.27	Whaling
16	27	.017	.0455	.22	Whapper
16	28	.016	.0465	.17	Whatnot
16	29	.015	.0475	.15	Wheatear
16	30	.014	.0485	.13	Wheatgrass
16	31	.0135	.049	.12	Wheedle
16	32	.013	.0495	.11	Wheedling
16	33	.011	.0515	.10	Wheeler
16	34	.010	.0525	.09	Whelp
16	35	.0095	.053	.08	Whelping
18	22	.028	.0275	.72	Whemmel
18	23	.025	.0305	.60	Wherewith
18	24	.023	.032	.48	Whetstone
18	25	.020	.035	.38	Whetter
18	26	.018	.037	.32	Wherry
18	27	.017	.038	.27	Whey
18	28	.016	.0395	.22	Wheyish
18	29	.015	.0405	.17	Whiffing
18	30	.014	.0415	.15	Whiffle
18	31	.0135	.042	.13	Whiggery
18	32	.013	.0425	.12	Whiggish
18	33	.011	.0445	.11	Whigling
18	34	.010	.0455	.10	Whim
18	35	.0095	.0460	.09	Whimbrel
18	36	.009	.0465	.08	Whimper
20	24	.0230	.0270	.62	Lawmonger
20	25	.0204	.0296	.52	Lawsuit
20	26	.0181	.0319	.43	Lawyerly
20	27	.017	.033	.35	Whining
20	28	.016	.034	.27	Whipcord
20	29	.015	.035	.24	Whiplash
20	30	.014	.036	.20	Whipping
20	31	.0135	.0365	.17	Whipstaff
20	32	.013	.037	.15	Whipster
20	33	.011	.039	.13	Whipstock
20	34	.010	.040	.12	Whirlbat
20	35	.0095	.0405	.10	Whirligig
20	36	.009	.041	.09	Whirling
22	24	.023	.022	.77	Whirlpool
22	25	.020	.025	.65	Whirlwind
22	26	.018	.027	.55	Whisking
22	27	.017	.028	.46	Whisper
22	28	.016	.029	.38	Whispering
22	29	.015	.030	.30	Whistle
22	30	.014	.031	.26	Whistling

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Steel Wire Cloth

Price List, Subject to Discount—Continued

No. Meshes per Inch	No. of Wire	Decimal Size of Wire	Size of Opening	Price per Square Foot	CODE WORD
22	31	.0135	.0315	$0.22	Whitebait
22	32	.013	.032	.19	Whiteface
22	33	.011	.034	.17	Whitehair
22	34	.010	.035	.15	Whiteheat
22	35	.0095	.0355	.13	Whitehouse
22	36	.009	.036	.12	Whiteness
24	25	.020	.021	.77	Whitestone
24	26	.018	.023	.65	Whitehorn
24	27	.017	.024	.55	Whitewash
24	28	.016	.025	.46	Whitlow
24	29	.015	.026	.38	Whitsun
24	30	.014	.027	.30	Wholeness
24	31	.0135	.0275	.26	Wholesome
24	32	.013	.028	.22	Wholly
24	33	.011	.030	.19	Whooping
24	34	.010	.031	.17	Whortle
24	35	.0095	.0315	.15	Wickedly
24	36	.009	.032	.13	Wickedness
26	26	.018	.0205	.77	Wickerwork
26	27	.017	.0215	.65	Wicket
26	28	.016	.0225	.55	Wicliffite
26	29	.015	.0235	.46	Wideness
26	30	.014	.0245	.38	Widening
26	31	.0135	.025	.30	Widerhalt
26	32	.013	.0255	.26	Widerlich
26	33	.011	.0275	.23	Widerrufer
26	34	.010	.0285	.19	Widgeon
26	35	.0095	.029	.17	Widmung
26	36	.009	.0295	.15	Widower
28	27	.017	.0187	.77	Widowhood
28	28	.016	.0197	.65	Wieldable
28	29	.015	.0207	.55	Wieldness
28	30	.014	.0217	.46	Wieldly
28	31	.0135	.0222	.35	Wifehood
28	32	.013	.0227	.30	Wifeless
28	33	.011	.0247	.26	Wigwam
28	34	.010	.0257	.23	Wildbret
28	35	.0095	.0262	.19	Wilderness
28	36	.009	.0267	.17	Wildfire
30	28	.016	.0173	.66	Wildgoose
30	29	.015	.0183	.56	Wildness
30	30	.014	.0193	.47	Wilfully
30	31	.0135	.0198	.37	Wilfulness
30	32	.013	.0203	.31	Willemite
30	33	.011	.0223	.27	Willingly
30	34	.010	.0233	.23	Willowish
30	35	.0095	.0238	.20	Willoweed
30	36	.009	.0243	.19	Willowwort
35	29	.015	.0135	.80	Wimple
35	30	.014	.0145	.67	Windbag
35	31	.0135	.015	.57	Wincing
35	32	.013	.0155	.47	Wind

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Steel Wire Cloth

Price List, Subject to Discount—Continued

No. Meshes per Inch	No. of Wire	Decimal Size of Wire	Size of Opening	Price per Square Foot	CODE WORD
35	33	.011	.0175	$0.40	Windegg
35	34	.010	.0185	.36	Windfall
35	35	.0095	.019	.30	Winding
35	36	.009	.0195	.27	Windmill
36	31	.0132	.0146	.65	Laxamentis
36	32	.0128	.0150	.54	Laxadas
36	33	.0110	.0168	.46	Laxabantur
36	34	.0100	.0178	.42	Laxamentum
36	35	.0095	.0183	.36	Laxamente
36	36	.009	.0188	.33	Lawsonia
40	31	.0135	.0115	.68	Windpipe
40	32	.013	.012	.57	Windward
40	33	.011	.014	.48	Winged
40	34	.010	.015	.44	Wingless
40	35	.0095	.0155	.40	Winker
40	36	.009	.016	.36	Winkingly
40	37	.0085	.0165	.32	Winkle
45	33	.011	.0112	.70	Winnow
45	34	.010	.0122	.58	Winnowing
45	35	.0095	.0127	.50	Winsome
45	36	.009	.0132	.46	Wiping
45	37	.0085	.0137	.42	Wirthbar
50	34	.0104	.0100	.80	Wirthlich
50	35	.0095	.0105	.65	Wirthshof
50	36	.009	.0110	.60	Wiredraw
50	37	.0085	.0115	.56	Wiry
50	38	.008	.0120	.44	Wisdom
55	35	.0095	.0087	.80	Wiseacre
55	36	.0090	.0092	.65	Wiseling
55	37	.0085	.0097	.60	Wiseman
55	38	.0080	.0102	.52	Wiseness
60	35	.0095	.0072	1.00	Wishful
60	36	.009	.0077	.85	Wishing
60	37	.0085	.0082	.70	Wisp
60	38	.008	.0087	.65	Witchcraft
60	39	.0075	.0092	.58	Witchery
64	37	.0085	.0071	.85	Witchtree
64	38	.008	.0076	.70	Withal
64	39	.0075	.0081	.65	Witherband
70	37	.0085	.0075	1.05	Withered
70	38	.008	.0063	.90	Withering
70	39	.0075	.0068	.80	Witholden
74	39	.0075	.0060	1.00	Withstand
74	40	.0070	.0065	.90	Witless
80	40	.0070	.0055	1.20	Witling
80	41	.0066	.0059	1.10	Witnesser
90	42	.0062	.0049	1.45	Witted

The above prices are based on Washburn & Moen gauge wire which is standard and will be furnished on all orders unless otherwise specified.

Special prices will be quoted on galvanized, tinned, brass and copper wire cloth.

Plain Wagon Dump Irons

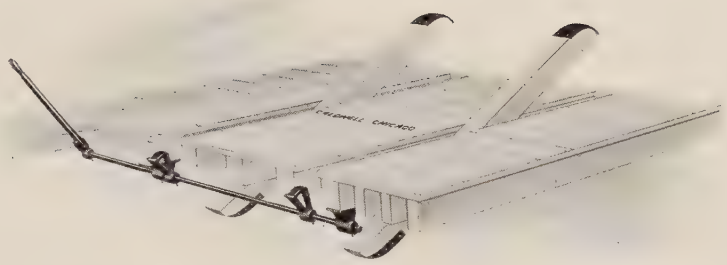


Fig. 45671. (*Columnar*)

This device is familiar to most grain elevator men. As the illustration is drawn, the timbers are in a position that they take while the wagon is being unloaded; that is to say, the wagon wheels would rest on the timbers and the wagon body and gear would be tilted to dump the load into the hopper through an opening in the floor at the back of the wagon. This style of wagon dump is the cheapest, and has the disadvantage of allowing the wagon to tilt without any control of the fall as soon as the lever is pulled and the end of the timbers released. The dumps shown on the following pages are more expensive, but have the advantage of being controllable.

We furnish only the ironwork, as the woodwork can be readily constructed on the premises by any carpenter. Our price includes the shaft, iron shoes for ends of timbers, bearings for shaft, and tripper shoes for supporting and releasing the dumping timbers.

Price, Per Set, Subject to Discount

Regular Pattern	$35.00	(*Lufthaut*)
Extra Heavy Pattern	60.00	(*Lufthieb*)

Improved Overhead Wagon Dump

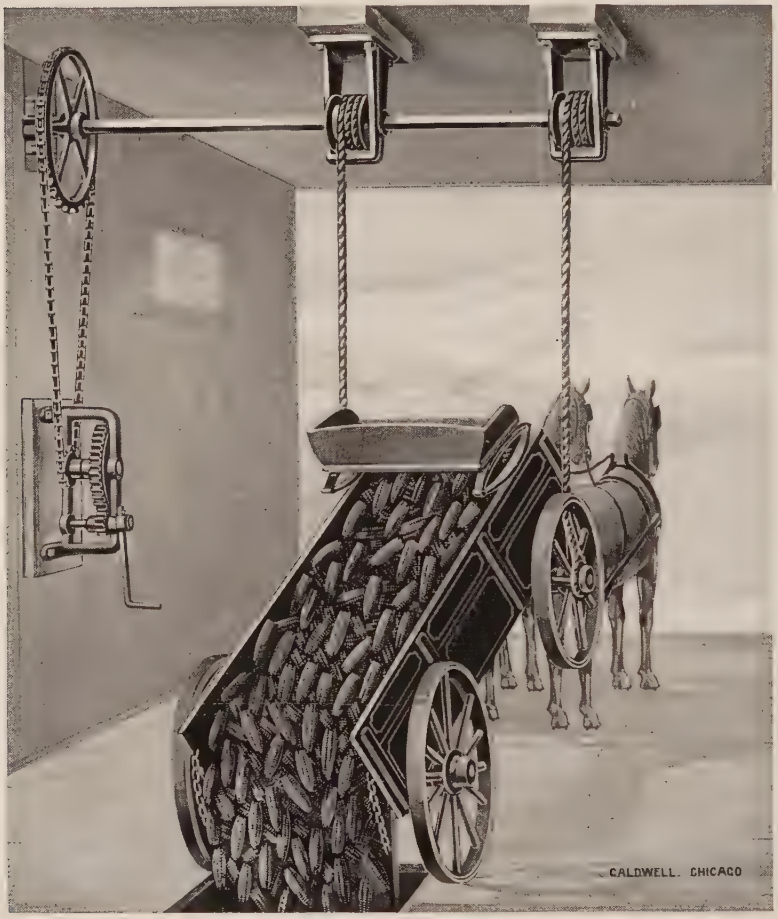


Fig. 45672. (*Lendemain*)

This dump can be placed on a level floor, no tilting dump timbers being required. The dump is double geared and easily operated. Power can be applied with very little change, if desired.

The dump is furnished complete, as follows:

1 Steel overhead shaft, complete with bearings and drums.

1 Large sprocket wheel with chain.

Gear, pinion and small sprocket wheel, all mounted in iron frame, and complete with handle.

30 feet of manila rope with rings to fit over wagon hubs.

Price, subject to discount $150.00

Worm Gear Wagon Dump

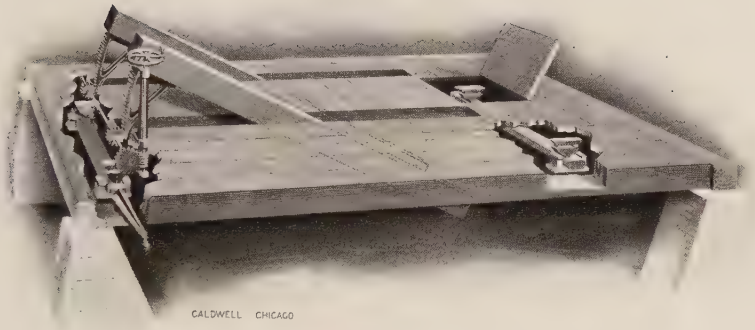


Fig. 45673. (*Lawgiving*)

The worm gear wagon dump shown above is a decided improvement over the older types of dumps. Among its advantages we mention the following:

There is no chain to break.

There is no necessity for using a brake.

The motion is positive, and there is no possibility of slipping.

The operating stand can be placed several feet to one side, if so desired.

The price includes all the iron work necessary for erecting the dump and a list of the necessary timber is also furnished. These dumps can be used with a standard dump scale if so desired.

Price, subject to discount $100.00

Evans Wagon Dump

Fig. 45674. (*Comate*)

The Evans Wagon Dump is designed for use where the work is extra heavy, and where perfect safety and control are necessary.

The iron supports which hold the dump rails level are so arranged that they are tripped by pressure of the operator's foot, which moves the rod shown in the cut above the gear shaft.

In addition to the ordinary gear wheel device for raising and lowering the dump rails, there is provided a strong band brake under control of a lever, so that if it is desired to lower the load part of the way, it can be locked in position by the band brake, and then lowered farther for the discharge of the balance of the load.

The guards shown at the front end of the dump rails prevent the horses from stepping back into the holes left when the rails are lifted.

As the price named below includes hardware, the additional cost of this improved dump is not greater than the regular style of controllable dump.

The advantages claimed are the strength of construction, safety and security on account of the self-locking device, friction brake, and guards on ends of dump rails; low cost of installation on account of the little labor and extra material required to erect; perfect control and accessibility for cleaning out any grain that may leak through the platform.

Price of the Evans dump irons complete with "hardware," $75.00, including working drawings and memorandum of lumber necessary.

Mosher Bag Holder

Fig. 45675. (*Commented*)

This is the only bag holder adapted for all sizes of bags from a 48-pound flour sack to a 6-bushel gunny bag.

It does not tear the bag. It is well made, with malleable iron jaws, wrought-iron pipe standards and steel spring. Weight, 20 pounds.

Price, subject to discount.....$5.00

Babbitt Metal

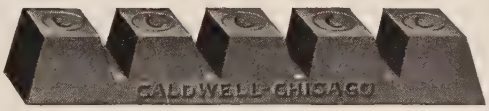


Fig.45676

We furnish the following grades:

GENUINE BABBITT. Contains tin, copper and antimony in the proportions of the original Babbitt mixture. (Code Word, Complicity.)

No. 1 BABBITT. Contains less tin than the genuine grade, and a small percentage of lead. Very high grade. (Code Word, Compliment.)

No. 2 BABBITT. A high grade Babbitt suitable for difficult work. (Code Word, Complique.)

No. 3 BABBITT. This is what might be called a standard Babbitt, and for medium work and ordinary purposes will be found satisfactory. (Code Word, Complot.)

No. 4 BABBITT. A cheap grade, but in some cases quite satisfactory. (Code Word, Complotter.)

Prices quoted upon application.

Steel Grain Scoop

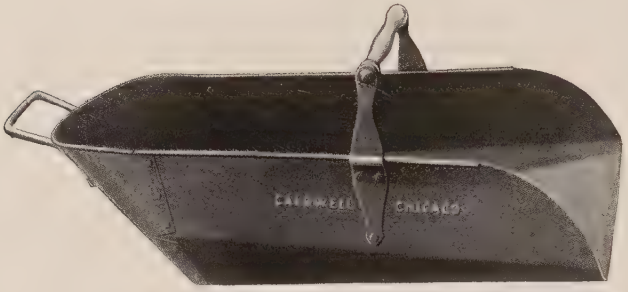


Fig. 45677. (*Almery*)

This scoop is made of sheet steel, is stronger and lighter than other scoops, and having a thin, sharp edge, is easily driven into the grain.

The work is brought much closer to the body than with the long-handled scoop, and a larger amount of material can be handled with less exertion.

We recommend the half-bushel scoop for general use. The larger scoop is suitable for bran and light grains.

Price List, Subject to Discount

	Price	CODE WORD
1 bushel capacity	$3.00	Almoner
½ bushel capacity	2.50	Alms

Flour Scoop of Heavy Tin

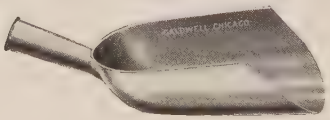


Fig. 45678. (*Almsgiver*)

Price List, Subject to Discount

	Price	CODE WORD
No. 2. 6¼ inches long	$0.70	Almshouse
No. 3. 7¾ inches long	.85	Aloetical
No. 4. 9½ inches long	1.05	Alogy
No. 5. 11½ inches long	1.30	Alone

The Champion Flour Scoop

Fig. 45679. (*Aloof*)

This scoop is made of blue annealed steel or galvanized steel The position of handle distributes the weight evenly so that the material is handled quicker and with less effort than with the old style scoop having handle at the end. The blue annealed steel scoop will be furnished unless galvanized is specified.

Price List, Subject to Discount

Length, Inches	Steel, Each	Galvanized Steel, Each	CODE WORD
8	$1.80	$2.30	Aloofness
10	2.05	2.70	Alopecy
12	2.40	3.00	Aloud
14	3.00	3.65	Alpaca

Caldwell Crucible Steel Grain Trimmer's Scoop

Fig. 45680. (*Laessiger*)

This scoop is specially adapted for trimming grain; is made of extra light crucible spring steel.

Price List, Subject to Discount

	Price Each	CODE WORD
Size, 11 x 15 inches	$3.70	Alpenstock
Size, 11¼ x 15½ inches	3.85	Alpestre

Grain Testers

Beam balances at zero, graduated so that by filling the cup with grain the beam will designate exactly the number of pounds that the grain will weigh to the bushel.

Fig. 45681. (*Altarpiece*)

Price List, Subject to Discount

	Price	CODE WORD
1 quart	$48.00	Alterative
2 quarts	53.00	Altercate

Special Nails

Fig. 45C82. (*Luilakken*)

The above special nails are used in beet sugar factories, being driven in wooden conveying feed rollers that feed the beets to the beet elevator. The effect is to loosen and remove the dirt from the beets in transit.

We carry these in stock.

Price per thousand, subject to discount.....$3.00

Grain Samplers

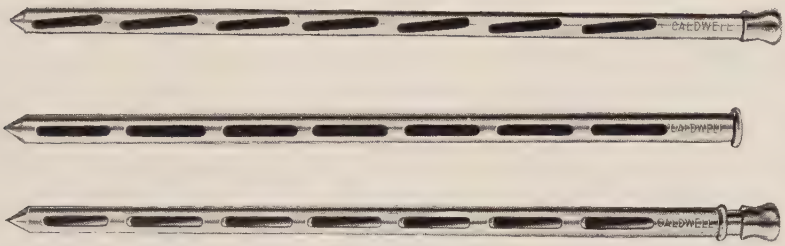


Fig. 45683. (*Aliferum*)

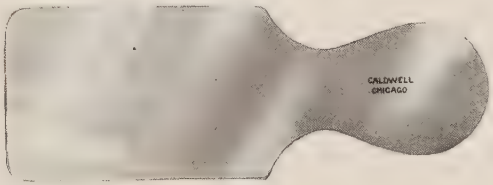
The Grain Sampler consists of two polished brass tubes, one inside the other, and having matched openings. By turning the inner tube the openings are opened or closed. With the holes closed the sampler is thrust into the grain to the bottom of the car or wagon, the handle is turned, opening the holes, and the sampler is filled with grain.

Price List, Subject to Discount

	Price	CODE WORD
1¼ inches diameter, x 44 in. long	$16.80	Alphabet
1½ inches diameter, x 44 in. long	18.90	Alphenic
1¾ inches diameter, x 52 in. long	21.00	Alphonsin

Flour Tester

Fig. 45684. (*Lapwoord*)
Price each, subject to discount, $0.75



Bag Samplers

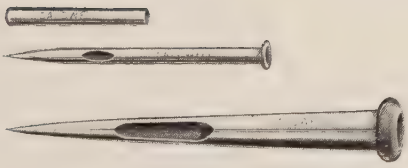


Fig. 45685. (*Alyxie*)

By means of the sharp and slender point the sampler can be thrust between the mesh of the bagging, forcing it apart without tearing. They are used for sampling grain and seeds of all kinds, coffee, etc., in sacks. The tube or straight shape is the style in which the 6-inch size is made and the cone or tapered shape is the style of the 9-inch and 12-inch sizes.

Price List, Subject to Discount

	Price	CODE WORD
Length, 6 inches, with sheath for protecting point, each	$1.75	Alsacian
Length, 9 inches (sheath not furnished with this size) each	2.50	Altar
Length, 12 inches (sheath not furnished with this size) each	3.00	Altarage

Standard Wrought Steam, Gas and Water Pipe

Full Standard Weight—Black and Galvanized
All Weights and Dimensions are Nominal

Price List, Subject to Discount

Size	Price per Foot	CODE WORD	DIAMETERS, INCHES		Thickness Inches	WEIGHT PER FOOT, POUNDS		Threads per inch
			External	Internal		Plain Ends	Threads and Couplings	
⅛	$.05½	Arponeaba	.405	.269	.068	.244	.245	27
¼	.06	Arquetaban	.540	.364	.088	.424	.425	18
⅜	.06	Arquimesa	.675	.493	.091	.567	.568	18
½	.08½	Arquitrabe	.840	.622	.109	.850	.852	14
¾	.11½	Arrabalera	1.050	.824	.113	1.130	1.134	14
1	.17	Arrabonas	1.315	1.049	.133	1.678	1.684	11½
1¼	.23	Arraffando	1.660	1.380	.140	2.272	2.281	11½
1½	.27½	Arralaba	1.900	1.610	.145	2.717	2.731	11½
2	.37	Arramblais	2.375	2.067	.154	3.652	3.678	11½
2½	.58½	Arrampico	2.875	2.469	.203	5.793	5.819	8
3	.76½	Arrancare	3.500	3.068	.216	7.575	7.616	8
3½	.92	Arrangolo	4.000	3.548	.226	9.109	9.202	8
4	1.09	Arrapinato	4.500	4.026	.237	10.790	10.889	8
4½	1.27	Arrasadura	5.000	4.506	.247	12.538	12.642	8
5	1.48	Arraspasti	5.563	5.047	.258	14.617	14.810	8
6	1.92	Arrasquen	6.625	6.065	.280	18.974	19.185	8
7	2.38	Arrantonado	7.625	7.023	.301	23.544	23.769	8
8	2.50	Arrebanan	8.625	8.071	.277	24.696	25.000	8
8	2.88	Lardario	8.625	7.981	.322	28.554	28.809	8
9	3.45	Arrebatoso	9.625	8.941	.342	33.907	34.188	8
10	3.20	Lardavano	10.750	10.192	.279	31.201	32.000	8
10	3.50	Arrebolar	10.750	10.136	.307	34.240	35.000	8
10	4.12	Lardassi	10.750	10.020	.365	40.483	41.132	8
11	4.63	Lardaruolo	11.750	11.000	375	45.557	46.247	8
12	4.50	Arrecando	12.750	12.090	.330	43.773	45.000	8
12	5.07	Arrecasti	12.750	12.000	.375	49.562	50.706	8

On orders for 8, 10 and 12-inch pipe which do not specify the weight desired, we will furnish 8-inch 25 lb., 10-inch 36 lb., and 12-inch 45 lb. pipe, respectively.

The permissible variation in weight is 5 per cent above and 5 per cent below.

Furnished with threads and couplings and in random lengths unless otherwise ordered.

For cut lengths, an extra charge will be made above random lengths.

For pipe smoothed on the inside, known as reamed and drifted, an extra charge will be made above standard pipe.

For galvanized or coated pipe, an extra charge will be made above black.

Extra Strong Wrought Pipe
Price List, Subject to Discount

Size	Price per Foot	CODE WORD	DIAMETERS, INCHES		Thickness Inches	Wt. per Ft. Plain Ends Pounds
			External	Internal		
⅛	$0.12	Arnsello	.405	.215	.095	.314
¼	.07½	Arponando	.540	.302	.119	.535
⅜	.07½	Arpailleur	.675	.423	.126	.738
½	.11	Arpicarono	.840	.546	.147	1.087
¾	.15	Arponasti	1.050	.742	.154	1.473
1	.22	Arrecoger	1.315	.957	.179	2.171
1¼	.30	Arrectaria	1.660	1.278	.191	2.996
1½	.36½	Arrediamo	1.900	1.500	.200	3.631
2	.50½	Arredraba	2.375	1.939	.218	5.022
2½	.77	Arreglaran	2.875	2.323	.276	7.661
3	1.03	Arregostar	3.500	2.900	.300	10.252
3½	1.25	Arrejaque	4.000	3.364	.318	12.505
4	1.50	Arrembaria	4.500	3.826	.337	14.983
4½	1.80	Arrembato	5.000	4.290	.355	17.611
5	2.08	Arremoline	5.563	4.813	.375	20.778
6	2.86	Arrenando	6.625	5.761	.432	28.573
7	3.81	Arrendersi	7.625	6.625	.500	38.048
8	4.34	Arrepapalo	8.625	7.625	.500	43.388
9	4.90	Lembulos	9.625	8.625	.500	48.728
10	5.48	Lembulum	10.750	9.750	.500	54.735
11	6.10	Lemettay	11.750	10.750	.500	60.075
12	6.55	Lemipode	12.750	11.750	.500	65.415

The permissible variation in weight is 5 per cent above and 5 per cent below.

Double Extra Strong Wrought Pipe
Price List, Subject to Discount

Size	List Price per Foot	CODE WORD	DIAMETERS, INCHES		Thickness Inches	Wt. per Ft. Plain Ends, Pounds
			External	Internal		
½	$0.32	Aspellunt	.840	.252	.294	1.714
¾	.35	Aspendus	1.050	.434	.308	2.440
1	.37	Asperabam	1.315	.599	.358	3.659
1¼	.52½	Asperarem	1.660	.896	.382	5.214
1½	.65	Asperella	1.900	1.100	.400	6.408
2	.91	Aspergines	2.375	1.503	.436	9.029
2½	1.37	Aspermous	2.875	1.771	.552	13.695
3	1.86	Aspernabas	3.500	2.300	.600	18.583
3½	2.30	Aspernaris	4.000	2.728	.636	22.850
4	2.76	Asperorum	4.500	3.152	.674	27.541
4½	3.26	Aspersorio	5.000	3.580	.710	32.530
5	3.86	Aspetador	5.563	4.063	.750	38.552
6	5.32	Aspicienda	6.625	4.897	.864	53.160
7	6.35	Aspidistra	7.625	5.875	.875	63.079
8	7.25	Aspilates	8.625	6.875	.875	72.424

The permissible variation in weight is 10 per cent above and 10 per cent below.

The following notes apply to both tables:

Furnished with plain ends and in random lengths, unless otherwise ordered.

Random length of Extra Strong and Double Extra Strong pipe is considered to be 12 ft. to 22 ft., we to have the privilege, however, of supplying not exceeding 5 per cent of total order in lengths from 6 ft. to 12 ft.

Pipe fitted with threads and couplings, an extra charge will be made above plain ends.

For cut lengths, an extra charge will be made above random.

For galvanized or coated pipe, an extra charge will be made above black.

All weights and dimensions are nominal.

Large Outside Diameter Pipe

Plain Ends

Price List, Subject to Discount

Size O. D.	PRICE, PER FOOT ¼ Inch Thick	⅜ Inch Thick	¾ Inch Thick	7/16 Inch Thick	½ Inch Thick	APPROXIMATE WEIGHT, PER FOOT ¼ Inch Thick	⅜ Inch Thick	¾ Inch Thick	7/16 Inch Thick	½ Inch Thick
14	$3.68	$4.57	$ 5.46	$ 6.34	$ 7.21	36.713	45.682	54.568	63.371	72.091
15	3.94	4.91	5.86	6.81	7.75	39.383	49.020	58.573	68.044	77.431
16	4.21	5.24	6.26	7.28	8.28	42.053	52.357	62.579	72.716	82.771
17	4.48	5.57	6.66	7.74	8.82	44.723	55.695	66.584	77.389	88.111
18	4.74	5.91	7.06	8.21	9.35	47.393	59.032	70.589	82.061	93.451
20	.....	6.58	7.86	9.15	10.42	.....	65.708	78.599	91.407	104.131
21	.....	6.91	8.27	9.61	10.95	.....	69.045	82.604	96.079	109.471
22	.....	7.24	8.67	10.08	11.49	.....	72.383	86.609	100.752	114.811
24	.....	.....	9.47	11.01	12.55	.....	.....	94.619	110.097	125.491
26	.....	.....	10.27	11.95	13.62	.....	.....	102.629	119.442	136.172
28	.....	.....	.....	12.88	14.69	.....	.....	.....	128.787	146.852
30	.....	.....	.....	13.82	15.76	.....	.....	.....	138.132	157.532

This pipe will be shipped in random lengths, plain ends, unless otherwise ordered.
For cut lengths an extra charge above random will be made.
For threaded pipe an extra charge above plain ends will be made.
We can thread up to 24-inch, inclusive.
We can furnish wrought couplings for sizes up to 20-inch, inclusive.

Standard Steel Boiler Tubes

Price Per Foot, Subject to Discount

Outside Diameter Inches	STANDARD THICKNESS Nearest Bgm. Wire Gauge	Ins.	PRICE PER FOOT Std. Thickness	One Extra Wire Gauge	Two Extra Wire Gauges	Three Extra Wire Gauges	Four Extra Wire Gauges	NOMINAL WEIGHTS PER FOOT—POUNDS Standard Thickness	One Extra Wire Gauge	Two Extra Wire Gauges	Three Extra Wire Gauges	Four Extra Wire Gauges
SEAMLESS												
1	13	.095	$0.30	$0.35	$0.38	$0.42	$0.45	1.03	1.12	1.23	1.34	1.47
1¼	13	.095	.28	.33	.36	.39	.43	1.32	1.44	1.59	1.74	1.91
1½	13	.095	.27	.32	.34	.38	.42	1.61	1.76	1.95	2.13	2.35
LAPWELDED												
1¾	13	.095	$0.22	$0.26	$0.28	$0.31	$0.34	1.84	2.07	2.24	2.46	2.68
2	13	.095	.21	.24	.26	.28	.31	2.10	2.37	2.57	2.83	3.09
2¼	13	.095	.24	.27	.29	.32	.35	2.38	2.68	2.92	3.21	3.50
2½	12	.109	.30	.33	.36	.39	.43	3.00	3.26	3.59	3.92	4.32
2¾	12	.109	.34	.37	.40	.44	.48	3.37	3.66	4.03	4.39	4.83
3	12	.109	.38	.41	.45	.49	.54	3.47	4.07	4.47	4.88	5.36
3¼	11	.120	.45	.49	.53	.59	.63	4.45	4.90	5.34	5.87	6.33
3½	11	.120	.48	.53	.58	.64	.69	4.81	5.29	5.77	6.34	6.84
3¾	11	.120	.52	.57	.62	.68	.74	5.17	5.69	6.20	6.82	7.36
4	10	.134	.61	.66	.73	.79	.88	6.08	6.64	7.30	7.88	8.76
4½	10	.134	.69	.75	.83	.89	.99	6.87	7.50	8.26	8.92	9.92
5	9	.148	.81	.90	.97	1.08	1.17	8.12	8.96	9.71	10.8	11.6
6	8	.165	1.08	1.17	1.31	1.41	1.52	10.8	11.7	13.1	14.1	15.1
7	8	.165	1.27	1.38	1.54	1.66	1.78	12.6	13.7	15.3	16.5	17.8
8	8	.165	1.45	1.58	1.76	1.90	2.05	14.5	15.7	17.6	19.0	20.4
9	7	.180	1.78	1.99	2.15	2.31	2.50	17.7	19.8	21.4	23.0	24.9
10	6	.203	2.22	2.39	2.57	2.79	3.04	22.1	23.8	25.7	27.8	30.3
11	5	.220	2.63	2.84	3.07	3.35	3.53	26.3	28.3	30.7	33.5	35.2
12	4½	.229	2.99	3.23	3.51	3.76	4.10	29.8	32.2	35.1	37.6	41.0
13	4	.238	3.36	3.64	3.98	4.19	4.72	33.6	36.4	39.7	41.8	47.1

Steam Flue Blower

Fig. 45686. (*Landslip*)

Price List, Subject to Discount

No. of Blower	Size of Flue, Outside Diameter	Size of Hose, Inches	Price, Each	CODE WORD
0	1¼ to 1¾	½	$ 5.00	Capadillo
1	2 to 2¼	½	5.00	Capadores
2	2½ to 2¾	¾	6.25	Caparbio
3	3 to 3¼	1	7.50	Capedinis
4	3½ to 3¾	1	8.75	Capelluto
5	4 to 4½	1¼	10.00	Capercail
6	5 to 6	1½	12.50	Capessitus

Ruggles Flue Cleaner

Fig. 45687. (*Landslot*)

This cleaner is light, strong, and durable, it will adjust itself to all imperfections of the flues, the knives are always sharp, the heads are steel drop forgings, it has no screws or rivets in its construction.

Price List, Subject to Discount

Size of Flue, Inches	Price	CODE WORD	Size of Flue, Inches	Price	CODE WORD
1¼	$2.00	Largitate	3	$3.00	Capomorto
1½	2.00	Capitellum	3¼	3.25	Caposcala
1¾	2.00	Capitudine	3½	3.50	Capotillo
2	2.00	Capiundus	4	4.00	Capoverso
2¼	2.25	Capobanda	4½	5.00	Caprichudo
2½	2.50	Capocroce	5	6.00	Caprigenus
2¾	2.75	Capolavoro	6	7.00	Capripede

Machine Bolts

With Square Heads and Square Nuts—Finished Points

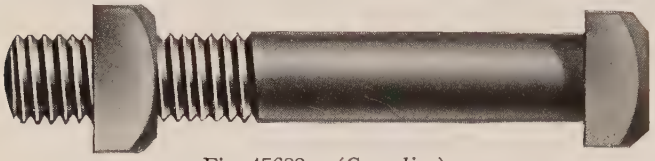


Fig. 45688. (*Consoling*)

Price per 100, Subject to Discount

Length Inches	1/4	5/16	3/8	7/16	1/2	9/16 & 5/8	3/4	7/8	1	1 1/8	1 1/4
3/4 to 1 1/2	$ 2.70	$ 2.00	$ 2.40	$ 2.80	$3.60	$ 5.20	$ 7.70	$10.50	$15.10	$22.50	$ 30.00
2	1.78	2.12	2.56	3.00	3.86	5.58	8.25	11.20	16.00	23.70	31.50
2 1/2	1.86	2.24	2.72	3.20	4.12	5.96	8.80	11.90	16.90	24.90	33.00
3	1.94	2.36	2.88	3.40	4.38	6.34	9.35	12.60	17.80	26.10	34.50
3 1/2	2.02	2.48	3.04	3.60	4.64	6.72	9.90	13.30	18.70	27.30	36.00
4	2.10	2.60	3.20	3.80	4.90	7.10	10.45	14.00	19.60	28.50	37.50
4 1/2	2.18	2.72	3.36	4.00	5.16	7.48	11.00	14.70	20.50	29.70	39.00
5	2.26	2.84	3.52	4.20	5.42	7.86	11.55	15.40	21.40	30.90	40.50
5 1/2	2.34	2.96	3.68	4.40	5.68	8.24	12.10	16.10	22.30	32.10	42.00
6	2.42	3.08	3.84	4.60	5.94	8.62	12.65	16.80	23.20	33.30	43.50
6 1/2	2.50	3.20	4.00	4.80	6.20	9.00	13.20	17.50	24.10	34.50	45.00
7	2.58	3.32	4.16	5.00	6.46	9.38	13.75	18.20	25.00	35.70	46.50
7 1/2	2.66	3.44	4.32	5.20	6.72	9.76	14.30	18.90	25.90	36.90	48.00
8	2.74	3.56	4.48	5.40	6.98	10.14	14.85	19.60	26.80	38.10	49.50
9	2.90	3.80	4.80	5.80	7.50	10.90	15.95	21.00	28.60	40.50	52.50
10	3.06	4.04	5.12	6.20	8.02	11.66	17.05	22.40	30.40	42.90	55.50
11	3.22	4.28	5.44	6.60	8.54	12.42	18.15	23.80	32.20	45.30	58.50
12	3.38	4.52	5.76	7.00	9.06	13.18	19.25	25.20	34.00	47.70	61.50
13	3.54	4.76	6.08	7.40	9.58	13.94	20.35	26.60	35.80	50.10	64.50
14	3.70	5.00	6.40	7.80	10.10	14.70	21.45	28.00	37.60	52.50	67.50
15	3.86	5.24	6.72	8.20	10.62	15.46	22.55	29.40	39.40	54.90	70.50
16	4.02	5.48	7.04	8.60	11.14	16.22	23.65	30.80	41.20	57.30	73.50
17	4.18	5.72	7.36	9.00	11.66	16.98	24.75	32.20	43.00	59.70	76.50
18	4.34	5.96	7.68	9.40	12.18	17.74	25.85	33.60	44.80	62.10	79.50
19	4.50	6.20	8.00	9.80	12.70	18.50	26.95	35.00	46.60	64.50	82.50
20	4.66	6.44	8.32	10.20	13.22	19.26	28.05	36.40	48.40	66.90	85.50
21	.....	.....	.....	.....	.....	.....	29.15	37.80	50.20	69.30	88.50
22	.....	.....	.....	.....	.....	.....	30.25	39.20	52.00	71.70	91.50
23	.....	.....	.....	.....	.....	.....	31.35	40.60	53.80	74.10	94.50
24	.....	.....	.....	.....	.....	.....	32.45	42.00	55.60	76.50	97.50
25	.....	.....	.....	.....	.....	.....	33.55	43.40	57.40	78.90	100.50
26	.....	.....	.....	.....	.....	.....	34.65	44.80	59.20	81.30	103.50
27	.....	.....	.....	.....	.....	.....	35.75	46.20	61.00	83.70	106.50
28	.....	.....	.....	.....	.....	.....	36.85	47.60	62.80	86.10	109.50
29	.....	.....	.....	.....	.....	.....	37.95	49.00	64.60	88.50	112.50
30	.....	.....	.....	.....	.....	.....	39.05	50.40	65.40	90.90	115.50

The following extras are to be understood as a part of the above list:

Bolts with hexagon heads or hexagon nuts, 10 per cent extra.

If both hexagon heads and hexagon nuts, 20 per cent extra.

Joint bolts with oblong nuts, 10 per cent extra.

Bolts with tee heads, askew heads and eccentric heads, 20 per cent extra.

Key bolts, 20 per cent extra.

Bolts with cotter holes, 25 per cent extra.

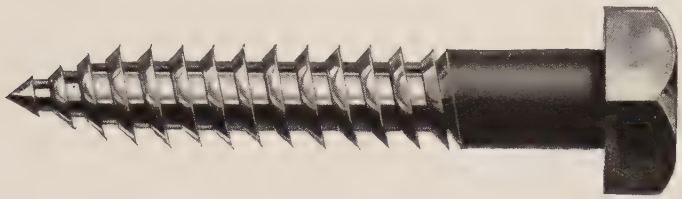
Special bolts with irregular threads and unusual dimensions of heads or nuts will be charged extra at our discretion.

Machine bolts when fitted with U. S. standard square nuts, add 5 per cent.

Machine bolts when fitted with U. S. standard hexagon nuts, add 15 per cent.

Machine bolts packed other than our standard packing to be charged extra at our discretion.

Lag Screws with Square Heads



Gimlet Point Lag Screw. Fig. 45689. (*Arrigote*)

Price per 100, Subject to Discount

Length Inches	5/16	3/8	7/16	1/2	9/16 & 5/8	3/4	7/8	1
1½	$2.25	$2.70	$3.15	$3.75	.....	.....	.....	.....
2	2.45	2.96	3.47	4.11	$ 6.00	.....	.....	.....
2½	2.65	3.22	3.79	4.47	6.50	$ 9.20	.....	.....
3	2.85	3.48	4.11	4.83	7.00	9.90	$15.00	.....
3½	3.05	3.74	4.43	5.19	7.50	10.60	16.00	$22.00
4	3.25	4.00	4.75	5.55	8.00	11.30	17.00	23.30
4½	3.45	4.26	5.07	5.91	8.50	12.00	18.00	24.60
5	3.65	4.52	5.39	6.27	9.00	12.70	19.00	25.90
5½	3.85	4.78	5.71	6.63	9.50	13.40	20.00	27.20
6	4.05	5.04	6.03	6.99	10.00	14.10	21.00	28.50
6½	4.25	5.30	6.35	7.35	10.50	14.80	22.00	29.80
7	4.45	5.56	6.67	7.71	11.00	15.50	23.00	31.10
7½	4.65	5.82	6.99	8.07	11.50	16.20	24.00	32.40
8	4.85	6.08	7.31	8.43	12.00	16.90	25.00	33.70
9	5.25	6.60	7.95	9.15	13.00	18.30	27.00	36.30
10	5.65	7.12	8.59	9.87	14.00	19.70	29.00	38.90
11	6.05	7.64	9.23	10.59	15.00	21.10	31.00	41.50
12	6.45	8.16	9.87	11.31	16.00	22.50	33.00	44.10

Hexagon heads, 10 per cent extra. Tee heads, 20 per cent extra.

Cast Iron and Wrought Washers

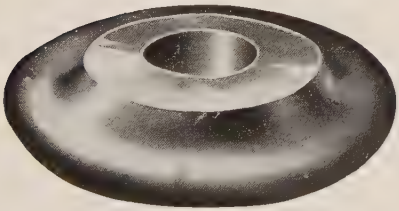


Fig. 45690. (*Landspring*)
Cast Iron Washers

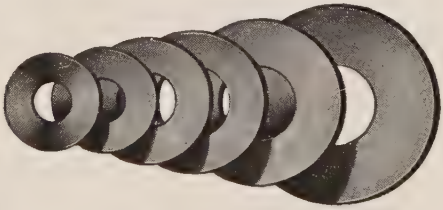


Fig. 45691. (*Landspout*)
Wrought Washers

We are prepared to furnish Cast Iron and Wrought Washers of all standard sizes. Prices will be quoted upon receipt of specifications as to sizes and quantity required.

Special sizes can be made to order. Prices will be quoted upon application.

Magnetic Field Separator

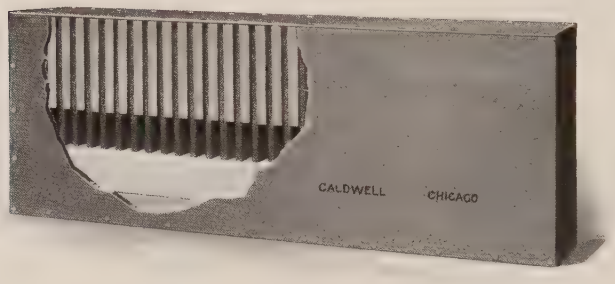


Fig. 45691-A. (*Commotion*)

The soft iron cover or keeper through which the horseshoe magnets act is fitted in the bottom of spout through which material flows. Spout should be wide and the stream of material as thin as possible. The magnets catch and hold iron and steel, which should be removed daily. Twenty-four inch and thirty-inch are average sizes.

Price, subject to discount, per inch.....$5.00

Mill Magnets

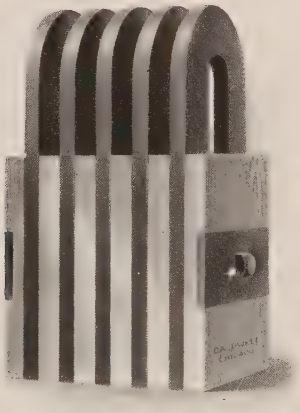


Fig. 45691-B. (*Landshuis*)

Made of special magnet steel and thoroughly magnetized. These magnets should be assembled in gangs with magnets about one inch apart, and placed in spouts so as to catch wire nails, etc.

These are furnished not assembled.

Standard length 8 5/8 inches.

Width 3 3/4 inches.

Price per magnet, subject to discount.....$2.50

Badger Car Mover

Fig. 45691-C. (*Laervchen*)

This car mover has two square or four cornered spurs which catch the outer edges of the rail where it is soft, and not the top of the rail which becomes hardened from pressure of the car wheels.

When the spur edges become dull they can be changed so that the four corners can be used in turn.

A cam pivoted to the end of the main lever pushes the wheel and follows it when the handle is pressed down.

Price, each, subject to discount, weight 15 lbs.....$6.50

Price of extra spur, each, 50c, subject to discount.

Sheldon Car Mover

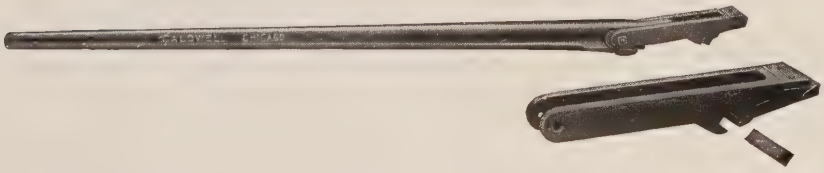


Fig. 45691-D. (*Laertiorum*)

The great advantage of this car mover is in its compound leverage, this giving the operator great purchase power.

The handle is made of malleable iron; the toe plate and heel are of steel and interchangeable. The heel or grip, is made of "Mushet" steel, manufactured especially for severe usage.

Price of bar, including one heel.....$5.00

Price of extra heel, 50c, subject to discount.

Special Machinery

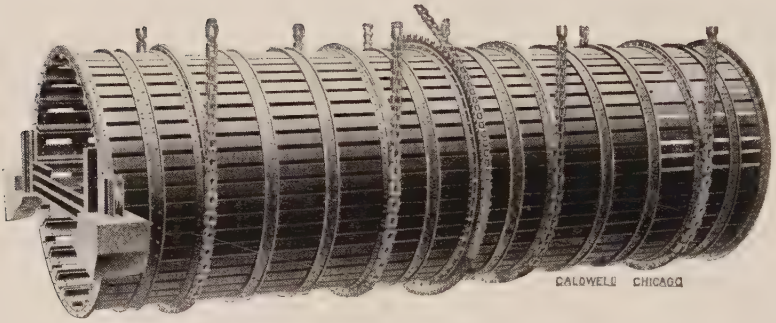


Fig. 45692

We show on this and the following pages cuts of a few of the many types of special machines which we manufacture. Our plant is complete in equipment for handling foundry work, machine work, structural steel, sheet metal and plate and tank work, and is particularly adapted to the handling of work involving a combination of machinery with structural steel and plate work. There is a considerable advantage in having work of this character built complete by one manufacturer, so that the machinery can be properly fitted to the structural work before shipment.

Prices will be quoted upon receipt of blue prints and specifications for the machines required.

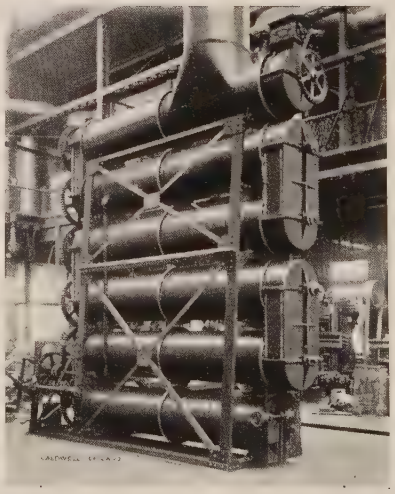


Fig. 45693

Buckle Machines for White Lead Plants

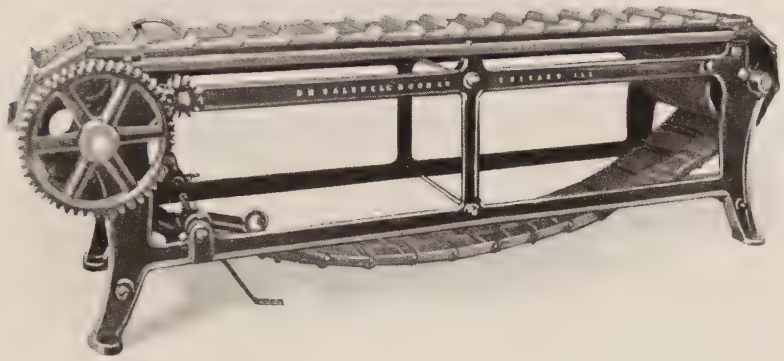


Fig. 45694. (*Lugarinho*)

We have made a number of Buckle Machines similar to that shown above, for use in the continuous casting of lead buckles in white lead plants. The details of the machines are carefully worked out, and they have proved very satisfactory.

Prices will be quoted on application.

Belt Type Feeders

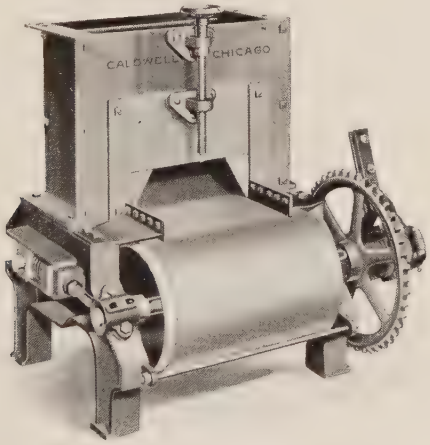


Fig. 45695. (*Luimigheid*)

Especially adapted for the accurate feeding of grains in mixed feed plants.

Prices on application.

Heavy Castings

TOTAL WEIGHT 40000 LBS.

Fig. 45696

Our gray iron foundry is modern and well equipped. Castings of any size up to 20 tons in weight can be handled. In connection with our gear work we make a specialty of close-grained semi-steel castings.

Prices will be quoted upon receipt of drawings.

Heavy Sheaves

Fig. 45697. (*Luipaard*)

We have made a number of heavy sheaves, similar to that shown above, with and without the drum for band brake. The drum shown above is split and removable from the sheave.

Prices will be quoted on application.

Screen Separators

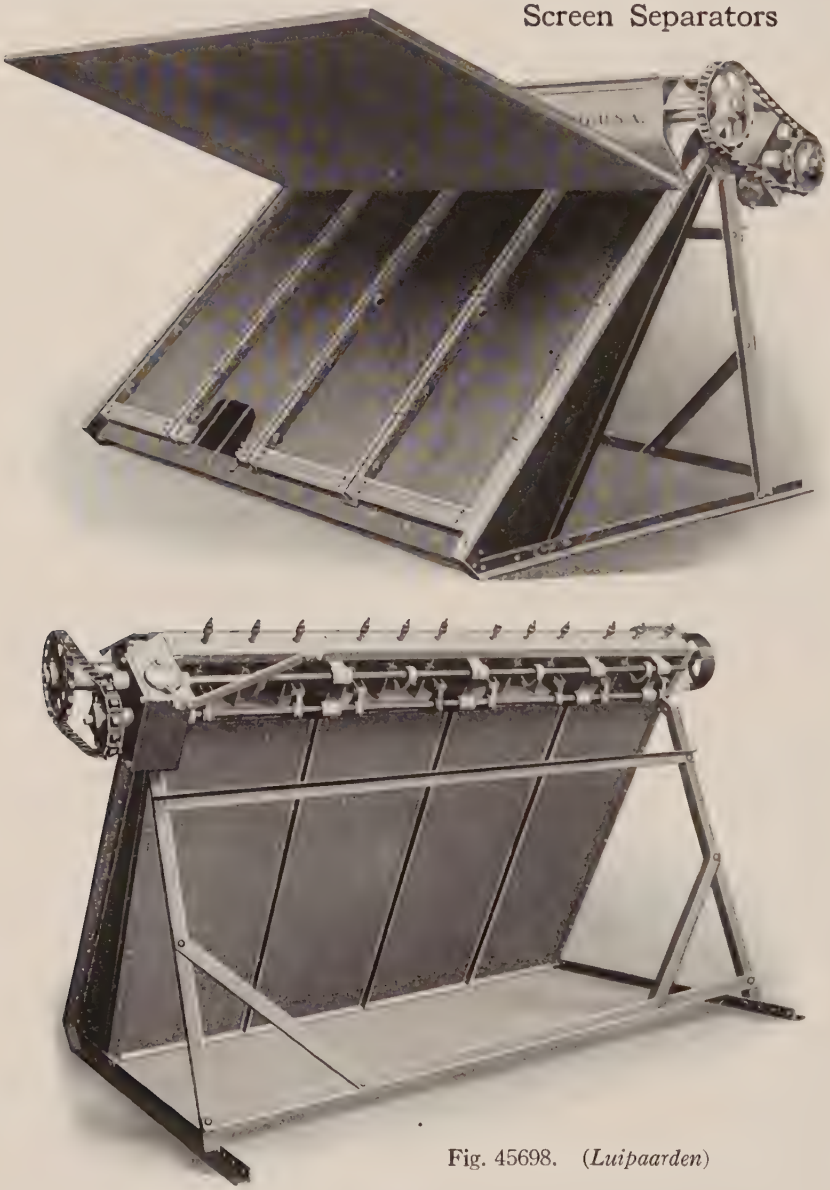


Fig. 45698. (*Luipaarden*)

This screen is made in a number of sizes, and is suited for fine screening of material such as cement, sand, Fuller's earth, plaster, etc. Vibrating wires, stretched beneath the screening surfaces, keep them from becoming clogged. The angle of the screening surface is adjustable, and the fineness of the product regulated.

Our equipment and organization for making special machinery is very complete, and we are prepared to give this character of work the best attention.

Steel Wheat Bins

Fig. 45699. (*Luisachtig*)

Our facilities for plate and tank work have been recently largely increased by the completion of a new steel shop, which more than doubles our capacity in this line. We will be pleased to quote prices on tanks, bins, hoppers, and on structural frame work, upon receipt of specifications or drawings.

Weight Per Square Foot of Iron and Steel

U. S. STANDARD GAUGE					BIRMINGHAM GAUGE			
No. of Gauge	Thickness in Inches		Weight Square Foot		No. of Gauge	Thickness in Inches	Weight Sq. Ft.	
	Fractions	Decimals	Iron	Steel			Iron	Steel
7–0's	1–2	.5	20.00	20.4				
6–0's	15–32	.46875	18.75	19.125				
5–0's	7–16	.4375	17.50	17.85				
0000	13–32	.40625	16.25	16.575	0000	.454	18.22	18.46
000	3–8	.375	15.	15.30	000	.425	17.05	17.28
00	11–32	.34375	13.75	14.025	00	.38	15.25	15.45
0	5–16	.3125	12.50	12.75	0	.34	13.64	13.82
1	9–32	.28125	11.25	11.475	1	.3	12.04	12.20
2	17–64	.265625	10.625	10.8375	2	.284	11.40	11.55
3	1–4	.25	10.	10.2	3	.259	10.39	10.53
4	15–64	.234375	9.375	9.5625	4	.238	9.55	9.68
5	7–32	.21875	8.75	8.925	5	.22	8.83	8.95
6	13–64	.203125	8.125	8.2875	6	.203	8.15	8.25
7	3–16	.1875	7.5	7.65	7	.18	7.22	7.32
8	11–64	.171875	6.875	7.0125	8	.165	6.62	6.71
9	5–32	.15625	6.25	6.375	9	.148	5.94	6.02
10	9–64	.140625	5.625	5.7375	10	.134	5.38	5.45
11	1–8	.125	5.	5.1	11	.12	4.82	4.88
12	7–64	.109375	4.375	4.4625	12	.109	4.37	4.43
13	3–32	.09375	3.75	3.825	13	.095	3.81	3.86
14	5–64	.078125	3.125	3.1875	14	.083	3.33	3.37
15	9–128	.0703125	2.8125	2.86875	15	.072	2.89	2.93
16	1–16	.0625	2.5	2.55	16	.065	2.61	2.64
17	9–160	.05625	2.25	2.295	17	.058	2.33	2.36
18	1–20	.05	2.	2.04	18	.049	1.97	1.99
19	7–160	.04375	1.75	1.785	19	.042	1.69	1.71
20	3–80	.0375	1.50	1.53	20	.035	1.40	1.42
21	11–320	.034375	1.375	1.4025	21	.032	1.28	1.30
22	1–32	.03125	1.25	1.275	22	.028	1.12	1.14
23	9–320	.028125	1.125	1.1475	23	.025	1.00	1.02
24	1–40	.025	1.	1.02	24	.022	.883	.895
25	7–320	.021875	.865	.8925	25	.02	.803	.813
26	3–160	.01875	.75	.765	26	.018	.722	.732
27	11–640	.0171875	.6875	.70125	27	.016	.642	.651
28	1–64	.015625	.625	.6375	28	.014	.562	.569
29	9–640	.0140625	.5625	.57375	29	.013	.....	.....
30	1–80	.0125	.5	.51	30	.012	.....	....
31	7–640	.010985	.4375	.44625	31	.01	.....	.....
32	13–1280	.01045625	.40625	.414375	32	.009	.....	.....
33	3–320	.009375	.375	.3825	33	.008	.....	.....
34	11–1280	.00859375	.34375	.350625	34	.007	.....	.....
35	5–640	.0078125	.3125	.31875	35	.005	.....	.....
36	9–1280	.00703125	.28125	.286875	36	.004	.....	.....
37	17–2560	.00664062	.265625	.2709375	37	.....	.....	.....
38	1–160	.00625	.25	.255	.....	.....	.....	.....

Sheet mills roll iron and steel sheets to United States standard gauge unless otherwise ordered. Plate mills usually roll heavy plates $\frac{3}{16}$ and heavier, and light plates No. 8 to No. 12 to Birmingham gauge.

The low temperature (as compared with iron) at which steel plates have to be finished, causes a slight springing of the rolls, leaving the plate thicker in the center than on the edge. This is especially noticeable in plates less than $\frac{3}{8}$-inch thick and over 66 inches wide, which may be of full thickness on the edge and yet be as much as $\frac{1}{8}$-inch thicker in the middle.

Weights of Round and Square Iron Per Lineal Foot

Size in Inches	● Weight, in Pounds	■ Weight, in Pounds	Size in Inches	● Weight in Pounds	■ Weight, in Pounds
3/16	.093	.1184	1 3/4	8.101	10.31
7/32	.1266	.1612	1 7/8	9.3	11.84
1/4	.1653	.2105	2	10.58	13.47
9/32	.2093	.2665	2 1/8	11.95	15.21
5/16	.2583	.329	2 1/4	13.39	17.05
11/32	.3126	.398	2 3/8	14.92	19.
3/8	.372	.4736	2 1/2	16.53	21.05
13/32	.4365	.5558	2 5/8	18.23	23.21
7/16	.5063	.6446	2 3/4	20.01	25.47
1/2	.6613	.842	2 7/8	21.87	27.84
9/16	.837	1.066	3	23.81	30.31
5/8	1.033	1.316	3 1/4	27.94	35.57
11/16	1.25	1.592	3 1/2	32.41	41.26
3/4	1.488	1.895	3 3/4	37.2	47.37
13/16	1.746	2.223	4	42.33	53.89
7/8	2.025	2.579	4 1/4	47.78	60.84
15/16	2.325	2.96	4 1/2	53.57	68.2
1	2.645	3.368	4 3/4	59.69	75.99
1 1/16	2.986	3.803	5	66.13	84.2
1 1/8	3.348	4.263	5 1/4	72.91	92.83
1 3/16	3.73	4.75	5 1/2	80.02	101.9
1 1/4	4.133	5.263	5 3/4	87.46	111.4
1 5/16	4.557	5.802	6	95.23	121.3
1 3/8	5.001	6.368	6 1/2	111.8	142.3
1 7/16	5.466	6.96	7	129.6	165.
1 1/2	5.952	7.578	7 1/2	148.8	189.5
1 9/16	6.458	8.223	8	169.3	215.6
1 5/8	6.985	8.893	8 1/2	191.1	243.4

Weights of Flat Steel Per Lineal Foot

Width in Inches	Thickness in Inches									
	1/8	3/16	1/4	5/16	3/8	1/2	5/8	3/4	7/8	1
1/2	.21	.31	.42	.53	.63	.85	1.06	1.28	1.49	1.70
5/8	.26	.39	.53	.66	.79	1.06	1.33	1.60	1.86	2.13
3/4	.31	.47	.63	.79	.95	1.27	1.59	1.91	2.32	2.55
7/8	.37	.55	.74	.92	1.11	1.48	1.85	2.23	2.60	2.98
1	.42	.63	.85	1.06	1.28	1.70	2.12	2.55	2.98	3.40
1 1/8	.47	.71	.95	1.20	1.43	1.92	2.39	2.87	3.35	3.83
1 1/4	.53	.79	1.06	1.33	1.59	2.12	2.65	3.19	3.72	4.25
1 3/8	.58	.87	1.17	1.46	1.76	2.34	2.92	3.51	4.09	4.68
1 1/2	.63	.95	1.28	1.59	1.92	2.55	3.19	3.83	4.47	5.10
1 5/8	.69	1.04	1.38	1.73	2.08	2.72	3.46	4.15	4.84	5.53
1 3/4	.74	1.15	1.49	1.86	2.23	2.98	3.72	4.47	5.20	5.95
2	.85	1.28	1.70	2.12	2.55	3.40	4.25	5.10	5.95	6.80
2 1/4	.96	1.44	1.92	2.39	2.87	3.83	4.78	5.75	6.69	7.65
2 1/2	1.06	1.59	2.12	2.65	3.19	4.25	5.31	6.38	7.44	8.50
2 3/4	1.17	1.75	2.34	2.92	3.51	4.67	5.84	7.02	8.18	9.35
3	1.28	1.91	2.55	3.19	3.83	5.10	6.38	7.65	8.93	10.20
3 1/4	1.38	2.07	2.76	3.45	4.15	5.53	6.91	8.29	9.67	11.05
3 1/2	1.49	2.23	2.98	3.72	4.47	5.95	7.44	8.93	10.41	11.90
3 3/4	1.59	2.39	3.19	3.99	4.78	6.38	7.97	9.57	11.16	12.75
4	1.70	2.55	3.40	4.25	5.10	6.80	8.50	10.20	11.90	13.60
4 1/2	1.91	2.87	3.83	4.78	5.74	7.65	9.57	11.48	13.39	15.30
5	2.13	3.19	4.25	5.31	6.38	8.50	10.63	12.75	14.87	17.00
5 1/2	2.33	3.51	4.67	5.84	7.02	9.35	11.69	14.03	16.36	18.70
6	2.55	3.83	5.10	6.38	7.65	10.20	12.75	15.30	17.85	20.40

Sizes and Weights of Tank Steel Plates Usually Carried in Stock

Size in Inches	Est. Wt. per Plate
3-16	
24x120	153
26x120	165
28x120	178
30x 98	156
30x120	191
30x138	220
36x 98	187
36x120	230
36x138	264
36x144	275
36x156	298
38x120	242
40x 98	209
40x120	255
42x120	268
42x138	308
44x 98	229
44x120	280
46x120	293
48x120	306
48x138	352
48x144	367
48x156	398
48x175	446
48x194	495
49x 98	255
50x120	319
54x 98	280
54x120	344
54x138	396
54x144	413

Size in Inches	Est. Wt. per Plate
3-16	
54x156	447
60x 98	312
60x120	382
60x138	440
60x144	458
60x156	497
60x175	556
60x194	618
72x 98	374
72x120	458
72x138	526
72x144	556
72x156	596
72x175	668
72x194	740
84x 96	490
84x120	610
84x156	790
96x 98	575
96x120	700
96x156	900
1-4	
24x120	204
26x120	221
30x 98	208
30x120	255
30x138	293
36x 98	249
36x120	306
36x138	352

Size in Inches	Est. Wt. per Plate
1-4	
36x144	367
36x156	398
40x 98	278
40x120	340
42x120	357
42x138	410
44x 98	305
44x120	374
48x 98	333
48x120	408
48x138	470
48x144	490
48x156	530
48x194	660
50x120	425
54x 98	375
54x120	459
54x138	528
54x144	551
54x156	597
54x194	743
60x 98	417
60x120	510
60x138	587
60x144	613
60x156	664
60x175	744
72x 96	491
72x 98	499
72x120	611
72x138	703

Size in Inches	Est. Wt. per Plate
1-4	
72x144	734
72x156	795
72x175	890
72x194	980
84x 98	582
84x120	714
84x138	820
84x144	855
84x156	926
84x175	1040
84x194	1150
96x 98	665
96x120	815
96x138	938
96x144	976
96x156	1060
96x175	1190
96x194	1320
5-16	
30x120	319
30x138	367
36x120	382
36x138	440
36x144	459
36x156	497
42x120	446
42x138	514
48x120	510
48x138	587
48x144	613

Size in Inches	Est. Wt. per Plate
5-16	
48x156	664
48x194	825
54x120	574
60x 98	520
60x120	638
60x138	734
60x144	765
60x156	829
60x175	930
60x194	1030
72x120	764
72x138	878
72x144	917
72x156	993
72x175	1115
72x194	1235
84x120	891
84x138	1025
84x144	1071
84x156	1161
84x175	1300
84x194	1440
96x120	1020
96x138	1174
96x144	1225
96x156	1327
96x175	1488
96x194	.1651

Size in Inches	Est. Wt. per Plate
3-8	
30x120	383
36x120	459
36x138	528
40x120	510
44x120	561
48x120	612
48x138	704
48x144	734
48x156	795
48x194	920
54x120	689
54x138	792
60x120	766
60x138	880
60x144	918
60x156	995
60x194	1236
65x118	815
96x118	1202
96x212½	2165
96x232½	2371
1-2	
36x120	612
40x120	680
48x120	816
60x120	1020
96x118½	1612
96x232½	3163

Weight Per Square Foot of Iron and Steel

9/16 Inch to Two Inches Thick

Thickness in Inches		Weight, Square Feet	
Fractions	Decimals	Iron	Steel
9/16	.5625	22.73	23.5
5/8	.625	25.26	26.
11/16	.6875	27.79	28.5
3/4	.75	30.31	31.
13/16	.8125	32.84	33.5
7/8	.875	35.37	36.
15/16	.9375	37.89	38.5
1	1.000	40.42	41.
1 1/16	1.0625	42.5	43.5

Thickness in Inches		Weight, Square Feet	
Fractions	Decimals	Iron	Steel
1 1/8	1.125	45.	46.
1 3/16	1.1875	47.5	48.5
1 1/4	1.25	50.	51.
1 5/16	1.3125	52.5	53.5
1 3/8	1.375	55.	56.1
1 7/16	1.4375	57.5	58.65
1 1/2	1.5	60.63	61.2
1 3/4	1.75	70.73	71.4
1 7/8	1.875	75.	76.5
2	2.	80.83	81.6

Sizes and Weights of Soft Steel Sheets Usually Carried in Stock

Size in Inches	Est. Wt. per Sheet
No. 8	
28x 96	130
30x 96	140
30x120	175
36x 96	168
36x120	210
36x138	240
36x144	252
40x 96	187
40x120	233
40x138	268
42x 96	196
42x120	245
48x 96	224
48x120	280
48x138	322
48x144	336
48x156	365
54x 96	252
54x120	315
54x138	362
54x144	378
60x 98	286
60x120	350
60x138	402
60x144	420
60x156	455
72x 98	360
72x120	420
72x138	488
72x144	504
72x156	546
No. 10	
24x 96	91
24x120	115
26x 96	99
26x108	111
26x120	124
28x 96	107
28x108	120
28x120	133
30x 96	114
30x108	129
30x120	143

Size in Inches	Est. Wt. per Sheet
No. 10	
36x 72	103
36x 77	110
36x 96	137
36x108	154
36x120	172
36x144	206
40x 96	153
40x120	191
42x 96	160
42x108	180
42x120	200
48x 77	147
48x 84	160
48x 96	183
48x108	206
48x120	229
48x138	263
48x144	275
48x156	298
54x 77	165
54x 96	206
54x120	258
54x138	296
54x144	309
54x156	336
60x 77	183
60x 96	229
60x120	286
60x138	329
60x144	344
60x156	372
72x 96	275.40
72x120	344.24
72x138	395.89
72x144	413.10
72x156	447.53
No. 12	
24x 96	71.40
24x120	89.25
26x 96	77.35
26x120	96.68
28x 96	83.30
28x120	104.12

Size in Inches	Est. Wt. per Sheet
No. 12	
30x 96	89.25
30x108	100.41
30x120	111.57
36x 77	85.89
36x 84	93.70
36x 96	107.10
36x108	120.50
36x120	133.87
36x144	160.65
40x 96	119.00
40x120	148.75
42x 96	124.95
42x120	156.19
48x 77	114.54
48x 84	124.93
48x 96	142.80
48x108	160.65
48x120	178.50
48x127	188.91
48x138	205.25
48x144	214.20
48x156	232.05
54x 77	128.84
54x 96	160.63
54x108	180.71
54x120	200.79
54x138	230.91
54x144	240.95
54x156	261.05
60x 77	143.16
60x 96	178.48
60x120	223.10
60x138	256.57
60x144	267.72
60x156	290.06
No. 14	
24x 96	51.00
24x108	57.37
24x120	63.75
26x 96	55.25
26x108	62.16
26x120	69.06
28x 96	59.50

Size in Inches	Est. Wt. per Sheet
No. 14	
28x108	66.94
28x120	74.38
30x 96	63.75
30x108	71.73
30x120	79.69
36x 77	61.35
36x 96	76.50
36x108	86.07
36x120	95.62
36x144	114.75
40x 77	67.61
40x 96	85.00
40x120	106.30
42x 96	89.25
42x120	111.57
48x 77	81.81
48x 84	89.24
48x 96	102.00
48x108	114.75
48x120	127.50
48x127	135.12
48x138	146.60
48x144	153.00
48x156	165.72
54x 77	92.02
54x 96	114.73
54x120	143.42
54x138	164.93
54x144	172.10
54x156	196.34
No. 16	
24x 96	40.80
24x108	45.90
24x120	51.00
26x 96	44.20
26x108	49.72
26x120	55.25
28x 96	47.60
28x108	53.54
28x120	59.50
30x 96	51.00
30x108	57.37
30x120	63.75

Size in Inches	Est. Wt. per Sheet
No. 16	
36x 77	49.09
36x 96	61.20
36x108	68.85
36x120	76.50
36x144	91.80
40x 96	68.00
40x120	85.00
42x 96	71.40
42x120	89.25
42x144	107.10
48x 77	65.46
48x 96	81.60
48x108	91.80
48x120	102.00
48x138	117.30
48x144	122.40
No. 18	
24x 96	32.64
24x108	36.72
24x120	40.80
26x 96	35.36
26x108	39.78
26x120	44.20
28x 96	38.08
28x108	42.84
28x120	47.60
30x 96	40.80
30x108	45.90
30x120	51.00
36x 96	48.96
36x108	55.08
36x120	61.20
42x 96	57.12
42x120	71.40
48x 96	65.28
48x120	81.60
No. 20	
24x 96	24.48
24x120	30.60
26x 96	26.52
26x120	33.14
28x 72	21.42

Size in Inches	Est. Wt. per Sheet
No. 20	
28x 84	24.99
28x 96	28.56
28x108	32.12
28x120	35.70
30x 96	30.60
30x120	38.25
36x 96	36.72
36x120	45.90
42x 96	42.84
42x120	53.56
48x 96	48.96
48x120	61.20
No. 22	
24x 96	20.40
24x101	21.46
24x120	25.50
26x 96	22.10
26x120	27.62
28x 72	17.85
28x 84	20.83
28x 96	23.80
28x108	26.77
28x120	29.75
30x 96	25.50
30x120	31.87
36x 96	30.60
36x120	38.25
42x 96	35.70
42x120	44.62
No. 24	
24x 96	16.32
24x101	17.17
24x120	20.40
26x 96	17.68
26x120	22.10
28x 72	14.28
28x 84	16.66
28x 96	19.04
28x101	20.03
28x108	21.42
28x120	23.80
30x 96	20.40

Weight of Angle Iron Per Foot

Size Inches	1/8	3/16	1/4	5/16	3/8	7/16	1/2	9/16	5/8	11/16	3/4	13/16	7/8
6 x6	.....	.....	.....	.....	.....	17.2	19.6	21.9	24.2	26.4	28.7	30.9	33.1
4 x4	.....	.....	.....	8.2	9.7	11.2	12.8	14.2	15.7	17.1	18.5	.....	.....
3½x3½	.....	.....	5.7	7.1	8.5	9.8	11.1	12.3	13.5	.....	.....	.....	.....
3 x3	2.6	.....	4.9	6.0	7.2	8.3	9.4	10.4	11.4	.....	.....	.....	.....
2½x2½	2.1	.....	4.0	5.0	5.9	6.8	7.7	.....	.....	.....	.....	.....	.....
2 x2	1.7	2.4	3.2	3.9	4.6	5.3	.....	.....	.....	.....	.....	.....	.....
1¾x1¾	1.4	2.1	2.8	3.4	4.0	4.6	.....	.....	.....	.....	.....	.....	.....
1½x1½	1.2	1.8	2.3	2.9	3.3	.....	.....	.....	.....	.....	.....	.....	.....
1¼x1¼	1.0	1.5	1.9	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
1 x1	0.8	1.2	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
¾x ¾	0.6	0.8	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

Weights of Various Materials

Material	Lbs. per Cu. Ft.	Material	Lbs. per Cu. Ft.	Material	Lbs. per Cu. Ft.
Aluminum	162	Flax seed	45	Peaches, dried	26
Apples, green	40	Flint	162	Peas, green	25.5
Apples, fried	19.2	Flour	56	Peas, dried	48
Asbestos	191	Fluorspar, wet	140	Peat, dry	30
Ashes, Anthracite dry	30			Pepper, black	30
Asphalt	80	Glass	172	Petroleum	55
		Granite	170	Phosphate, ground, dried	75
Baking Powder	56	Gravel, clean	160	Pine, white, dry	25
Barley	38.5	Grindstone	134	Pine, yellow, dry Northern	35
Barytes	325	Gun Powder	63	Pine, yellow, dry Southern	45
Beans, white	48	Gutta-percha	61	Pitch	72
Beans, castor	37	Gypsum	150	Plumbago	140
Beets	48			Poplar, dry	29
Blue grass seed	11	Hair, plastering, unwashed	6.5	Potatoes, Irish	48
Bone, dried and ground	75	Hay, loose	5	Potatoes, sweet	40
Boxwood, dry	60	Hay, well pressed	8	Quartz, common, pure	165
Bran	16	Hemlock, dry	25	Quartz, common, pulverized	90
Brick, pressed	140	Hemp seed	35		
Brick, common	120	Hickory, dry	53	Rock, crushed	110
Buckwheat	42	Hornblende	220	Rosin	69
				Rye	45
Carrots	44	Ice	57		
Cedar wood	39	India rubber	58	Salt	70
Cement Portland, loose	90	Iron, cast	450	Sand, quartz, dry loose	106
Cement Clinker	95	Iron, wrought	485	Sand, quartz, dry, rammed	120
Cement plaster	115	Lead, commercial	710	Sand, quartz, wet	140
Chestnut, wood, dry	41	Lead Dust, white	133	Sandstone	151
Cinders, bituminous	45	Lignum-vitae	83	Shale, red or black	162
Clay, dry, potters	119	Lime, quick, small lumps	53	Slate	175
Clay, dry, in lump	63	Lime, hydrated	30	Snow, fresh	12
Clay, damp, plastic	100	Limestone	168	Snow, moist and packed	50
Cloverseed	48	Locust, dry	44	Soapstone	170
Coal, anthracite, solid	94			Spelter	438
Coal, anthracite, loose	56	Mahogany, dry, Spanish	53	Spruce, dry	25
Coal, bituminous, solid	84	Mahogany, dry, Honduras	35	Steel	490
Coal, bituminous, loose	52	Malt, dry	35	Sugar	100
Coke	32	Maple, dry	49	Sulphate of iron	70
Concrete	150	Marble, common	168	Sulphur	125
Cork, dry	15	Mercury	849		
Corn, on the ear	56	Milk	65	Tallow	59
Corn, shelled	45	Mortar	103	Tar	63
Corn meal	40	Mud, dry, close	110	Timothy seed	36
Cotton seed	30	Mud, wet, fluid	120	Tin	459
Cypress wood	33	Mud, wet, pressed	130	Trap Rock	187
		Naphtha	53	Turnips	44
Earth, dry and loose	80	Oak, dry, live	60	Turpentine	55
Earth, dry and packed	100	Oak, dry, white	48	Water, distilled	63
Elm, dry	35	Oak, dry, red and black	43	Wheat	48
Elder, dry	43	Oats	25.5	Zinc	438
Emery	250	Oil, whale and olive	58		
		Oil, linseed	59		
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Fir, dry	35	Peaches	38.5		

To find weight per bushel, multiply weight per cubic foot by 1.25.

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1	584–585	586	586	72½	.....	559	.....
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2A	.....	559	.....	H74	598	598	598
F2	.....	559	.....	75	541	556–557–559	563
5A	.....	559	.....	H75	598	598	.....
SE13	.....	559	.....	075	.....	559	.....
23	.....	558	.....	75½	.....	559	.....
024	.....	558	.....	76½	.....	559	.....
25	538	556–557–558	561	77	542	556–557–559	562
025	.....	558	.....	78	542	556–557–559	563
31	.....	558	.....	H78	598	598	598
32	538	556–557–558	561	H82	598	598	598
032	.....	558	.....	83	544	556–557–559	563
33	538	556–557–558	561	85	545	556–557–559	563
34	538	556–557–558	561	H87	598	598	.....
34½	.....	558	.....	88	543	556–557–559	563
35	538	558	561	EC88	605	605	605
37	.....	558	.....	88½	.....	559	.....
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42	539	556–557–558	561–562	95	546	556–557	563
042	.....	558	.....	H95	598	598	598
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44	.....	558	.....	H98	595	596	597
45	539	556–557–558	561	H100	595	596	597
46	.....	558	.....	H101	595	596	597
046	.....	558	.....	102	574–575	576	577
47	.....	558	.....	H102	595	596	597
48	.....	558	.....	102½	574–575	576	577
50	.....	556	.....	103	547	556–557–559	563–564
51	539	556–558	562	EC103	605	605	605
S51	.....	558	.....	H103	595	596	597
52	539	556–557–558	562	H104	595	596	597
052	.....	558	.....	H105	595	596	597
52½	.....	559	.....	H106	595	596	.....
54⅜	578	579	579	108	548	556–557	564
55 Keeper	.....	559	.....	H108	598	598	598
55	540	556–557–559	561	110	.....	556–557	.....
055	.....	559	.....	H110	595	596	597
56½	578	579	579	111	574–575	576	577
56⅝	578	579	579	H111	595	596	597
57	540	556–557–559	562	H112	595	596	597
057	.....	559	.....	H113	595	596	597
58	.....	559	.....	114	549	556–557–559	564
58¾	578	579	579	EC114	605	605	605
H60	598	598	598	H116	595	596	597
62	540	556–557–559	562–563	H118	595	596	597
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EC62	605	605	605	H121	595	596	597
62½	.....	559	.....	122	550	559	564
063	.....	559	.....	H122	595	596	.....
64½	581	581	582–583	124	551	556–557–559	564
65	.....	559	.....	H124	598	598	598
65⅝	581	581	582–583	131	574–575	576	577
66	541	559	563	132	574–575	576	577
66¾	581	581	582–583	M138	610	611	.....
67	541	556–557–559	562	141	574–575	576	577
67⅞	581	581	582–583	146	.....	559	564
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196	600–601	602	603–604	500	599	599	.....
197	600–601	602	604	506	609	609	609
205	600–601	602	604	508	609	609	609
224	600–601	602	604	522	609	609	609
M269	610	611	.....	525	609	609	609
315	588–589	590	590	535	609	609	609
0316	584–585	586	586	671	581	581	582–583
0319	584–585	586	586	710	587	587	587
320	588–589	590	590	730	587	587	587
0321	584–585	586	586	810	599	599	.....
325	588–589	590	590	815	599	599	.....
0326	584–585	586	586	823	570–571	572	573
0340	584–585	586	586	825	570–571	572	573
S362	610	611	.....	830	570–571	572	573
S387	610	611	.....	843	570–571	572	573
S393	610	611	.....	844	570–571	572	573
450	593	594	.....	B1671	610	611	.....
451½	580	580	580	B2200	610	611	.....
452	593	594	.....	C2473	610	611	.....
460	593	594	.....	B2609	610	611	.....
461	592	594	.....	C2993	610	611	.....
461¼	580	580	580	C3042	610	611	.....
461⅜	580	580	580	C3047	610	611	.....
465	592	594	.....	C3271	610	611	.....
467	592	594	.....	C3272	610	611	.....
480	592	594	.....	C3273	610	611	.....
H480	595	596	.....	C3329	610	611	.....
481	592	594	.....	C3474	610	611	.....
481½	580	580	580	C3609	610	611	.....
481½A	580	580	580	C3617	610	611	.....

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